Campbell Biology Concepts and Connections 9th edition Taylor Test Bank

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Campbell Biology: Concepts and Connections, 9e **(Taylor et al.)**
Chapter 2 The Chemical Basis of Life

2.1 Multiple Choice Questions

1) The four most common elements in living organisms are
A) C, H, O, Fe.
B) C, H, O, Na.
C) C, H, O, N.
D) C, N, O, Na.
Answer: C
Topic: 2.1
Skill: Remembering/Understanding
Learning Outcome: 2.1

2) Which of the following is a trace element in the human body?
A) nitrogen
B) zinc
C) oxygen
D) hydrogen
Answer: B
Topic: 2.1
Skill: Remembering/Understanding
Learning Outcome: 2.1

3) Which of the following statements regarding matter is *false*?
A) All life is composed of matter.
B) All matter has mass.
C) All matter is composed of elements.
D) All matter exists in the form of compounds.
Answer: D
Topic: 2.1
Skill: Remembering/Understanding
Learning Outcome: 2.1

4) Which of the following statements best describes a compound?
A) A compound is a pure element.
B) A compound contains two or more different elements in a fixed ratio.
C) A compound is exemplified by sodium.
D) A compound is a solution.
Answer: B
Topic: 2.1
Skill: Remembering/Understanding
Learning Outcome: 2.1

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5) In the equation $2\ H_2 + O_2 \rightarrow 2\ H_2O$,
A) H_2, O_2, and H_2O are all compounds.
B) H_2, O_2, and H_2O are all elements.
C) only H_2O is a compound.
D) only H_2 and O_2 are compounds.
Answer: C
Topic: 2.1
Skill: Applying/Analyzing
Learning Outcome: 2.1
Global LO: 2

6) Which of the following trace elements needed by humans is commonly added to table salt?
A) iodine
B) iron
C) magnesium
D) fluoride
Answer: A
Topic: 2.2
Skill: Remembering/Understanding
Learning Outcome: 2.1
Global LO: 5

7) In some areas, fluoride is added during the municipal water treatment process in order to help
A) prevent goiter.
B) prevent the growth of bacteria.
C) prevent the development of mental retardation.
D) reduce tooth decay.
Answer: D
Topic: 2.2
Skill: Remembering/Understanding
Learning Outcome: 2.1
Global LO: 5

8) Which of the following particles are found in the nucleus of an atom?
A) protons and neutrons
B) protons and electrons
C) neutrons and electrons
D) neutrons, electrons, and protons
Answer: A
Topic: 2.3
Skill: Remembering/Understanding
Learning Outcome: 2.2

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9) Electrons move about the nucleus of an atom in the same way that
A) insects fly around a bright lamp at night.
B) cars are parked along the sides of a street.
C) boats cross a lake.
D) birds migrate to a new winter home.
Answer: A
Topic: 2.3
Skill: Applying/Analyzing
Learning Outcome: 2.2
Global LO: 2

10) What is the atomic mass of an atom that has 6 protons, 6 neutrons, and 6 electrons?
A) 6
B) 8
C) 12
D) 18
Answer: C
Topic: 2.3
Skill: Applying/Analyzing
Learning Outcome: 2.2
Global LO: 2, 4

11) An uncharged atom of boron has an atomic number of 5 and an atomic mass of 11. How many electrons does boron have?
A) 11
B) 15
C) 5
D) 2
Answer: C
Topic: 2.3
Skill: Applying/Analyzing
Learning Outcome: 2.2
Global LO: 2

12) The sodium atom contains 11 electrons, 11 protons, and 12 neutrons. What is the mass number of sodium?
A) 11
B) 22
C) 23
D) 34
Answer: C
Topic: 2.3
Skill: Applying/Analyzing
Learning Outcome: 2.2
Global LO: 2, 4

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13) Which of the following best describes the atomic number of an atom?
A) the number of protons in the atom
B) the number of electrons in the atom
C) the number of neutrons in the atom
D) the number of protons, electrons, and neutrons in the atom
Answer: A
Topic: 2.3
Skill: Remembering/Understanding
Learning Outcome: 2.2

14) Typically, nitrogen atoms are composed of electrons, protons, and neutrons. An isotope of nitrogen could
A) be positively charged.
B) be negatively charged.
C) have more protons than the usual nitrogen atom.
D) have more neutrons than the usual nitrogen atom.
Answer: D
Topic: 2.3
Skill: Remembering/Understanding
Learning Outcome: 2.2

15) A radioactive isotope is an isotope that
A) is stable.
B) decays.
C) has more protons than the common variant of the element.
D) has the same atomic mass but a different atomic number than the common variant of the element.
Answer: B
Topic: 2.3
Skill: Remembering/Understanding
Learning Outcome: 2.2

16) If you found a fossilized dinosaur bone, what could be done to accurately determine the age of the fossil?
A) Extract and sequence DNA from the bone.
B) Look at pieces of the bone under a microscope.
C) Analyze the isotopes of carbon in the fossil.
D) Compare the appearance of the bone to other fossilized bones.
Answer: C
Topic: 2.3
Skill: Applying/Analyzing
Learning Outcome: 2.2
Global LO: 2

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17) Which of the following statements about radioactive isotopes is *true*?
A) The nuclei of radioactive isotopes are unusually stable, but the atoms tend to lose electrons.
B) When given a choice between radioactive and nonradioactive isotopes of the same atom, living cells are more likely to incorporate the radioactive isotopes into their structures.
C) The energy emitted by radioactive isotopes can cause molecular damage in cells.
D) Radioactive elements are natural and therefore not harmful.
Answer: C
Topic: 2.4
Skill: Remembering/Understanding
Learning Outcome: 2.2

18) Radioactive isotopes
A) are frequently added to foods as nutritional supplements.
B) can be used in conjunction with PET scans to diagnose diseases.
C) do not occur naturally.
D) are never incorporated into organic compounds.
Answer: B
Topic: 2.4
Skill: Remembering/Understanding
Learning Outcome: 2.2
Global LO: 5

19) When full, the innermost electron shell of argon contains _____ electrons, and the outermost shell contains _____ electrons.
A) 2; 2
B) 2; 8
C) 4; 8
D) 8; 8
Answer: B
Topic: 2.5
Skill: Remembering/Understanding
Learning Outcome: 2.3

20) What happens to an atom if the electrons in the outer shell are altered?
A) The atom becomes radioactive.
B) The atom becomes a different element.
C) The atom acquires different properties.
D) The atom loses a proton.
Answer: C
Topic: 2.5
Skill: Remembering/Understanding
Learning Outcome: 2.3

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21) A(n) _____ forms when two atoms share electrons.
A) ion
B) covalent bond
C) ionic bond
D) hydrogen bond
Answer: B
Topic: 2.6
Skill: Remembering/Understanding
Learning Outcome: 2.4

22) A hydrogen atom has one electron. How many covalent bonds can hydrogen form?
A) one
B) two
C) four
D) none
Answer: A
Topic: 2.6
Skill: Applying/Analyzing
Learning Outcome: 2.4
Global LO: 2

23) Table salt is formed when
A) chlorine gives an electron to sodium.
B) a hydrogen bond forms between sodium and chlorine.
C) sodium and chlorine share electrons to form a bond.
D) sodium donates its single outer electron to chlorine.
Answer: D
Topic: 2.7
Skill: Remembering/Understanding
Learning Outcome: 2.4
Global LO: 5

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24) The body uses atoms in different ways to accomplish different tasks. For example, one portion of the body's calcium supply strengthens bones, whereas another portion combines with proteins to stimulate blood clotting after tissue injury. Which of the following statements provides the most logical chemical explanation of calcium's ability to perform such different functions?
A) The bone contains calcium salts, which are less reactive than the calcium ions found in the blood.
B) The calcium in blood is a more reactive form of the atom and therefore has fewer protons than the calcium in bone.
C) There are many different isotopes of calcium, and the most reactive isotope is found in the bone.
D) The calcium in blood has a lighter atomic mass than the calcium in bone and is in a more reactive form.
Answer: A
Topic: 2.7
Skill: Evaluating/Creating
Learning Outcome: 2.4
Global LO: 2, 6

25) Medicines are often administered in pill form. In many cases, the active ingredient of the pill (the drug) is joined to another substance by _____. This forms a(n) _____, which is stable in the dry environment of a pill bottle but dissociates under the wet conditions of the digestive system to release the drug to the body.
A) ionic bonds; salt
B) hydrogen bonds; base
C) ionic bonds; acid
D) covalent bonds; salt
Answer: A
Topic: 2.7
Skill: Applying/Analyzing
Learning Outcome: 2.4
Global LO: 2, 5

26) What is the fundamental difference between covalent and ionic bonding?
A) In a covalent bond, the partners share a pair of electrons; in an ionic bond, one partner accepts electrons from the other.
B) In covalent bonding, both partners end up with filled outer electron shells; in ionic bonding, one partner does and the other does not.
C) Covalent bonding involves only the outermost electron shell; ionic bonding also involves the next electron shell inside the outermost shell.
D) Covalent bonds form between atoms of the same element; ionic bonds form between atoms of different elements.
Answer: A
Topic: 2.6, 2.7
Skill: Remembering/Understanding
Learning Outcome: 2.4

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27) Which of the following statements regarding the oxygen atom of a water molecule is *true*?
A) Oxygen is more positively charged than the hydrogen atoms.
B) Oxygen attracts electrons less strongly than the hydrogen atoms.
C) Oxygen is more electronegative than the hydrogen atoms.
D) Oxygen is attracted to the negatively charged atoms of other molecules.
Answer: C
Topic: 2.8
Skill: Remembering/Understanding
Learning Outcome: 2.4, 2.5

28) In a water molecule, hydrogen and oxygen are held together by a _____ bond.
A) double covalent
B) nonpolar covalent
C) hydrogen
D) polar covalent
Answer: D
Topic: 2.8
Skill: Remembering/Understanding
Learning Outcome: 2.4, 2.5

29) A single water molecule (H—O—H) is held together by
A) one polar covalent bond.
B) one nonpolar covalent bond.
C) two polar covalent bonds.
D) two hydrogen bonds.
Answer: C
Topic: 2.8
Skill: Remembering/Understanding
Learning Outcome: 2.4, 2.5

30) The hydrogen atoms of a water molecule are bonded to the oxygen atom by _____ bonds, whereas neighboring water molecules are held together by _____ bonds.
A) hydrogen; polar covalent
B) polar covalent; hydrogen
C) ionic; covalent
D) polar covalent; ionic
Answer: B
Topic: 2.8
Skill: Remembering/Understanding
Learning Outcome: 2.4, 2.5

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31) _____ are weak bonds that are not strong enough to hold atoms together to form molecules but are strong enough to form bonds within and around large molecules.
A) Ionic bonds
B) Covalent bonds
C) Polar covalent bonds
D) Hydrogen bonds
Answer: D
Topic: 2.8
Skill: Remembering/Understanding
Learning Outcome: 2.4, 2.5

32) Water molecules stick to other water molecules because
A) water molecules are neutral, and neutral molecules are attracted to each other.
B) hydrogen bonds form between the hydrogen atoms of one water molecule and the oxygen atoms of other water molecules.
C) covalent bonds form between the hydrogen atoms of one water molecule and the oxygen atoms of other water molecules.
D) the oxygen atoms of adjacent water molecules are attracted to one another.
Answer: B
Topic: 2.8
Skill: Remembering/Understanding
Learning Outcome: 2.4, 2.5, 2.6

33) Which of the following statements regarding chemical reactions is *false*?
A) Chemical reactions involve the making and breaking of chemical bonds.
B) Some chemical reactions create electrons; others destroy them.
C) The reactants contain the same number of atoms as the products.
D) Although the atoms of a reaction's reactants and products are identical to each other, their molecular formulas differ.
Answer: B
Topic: 2.9
Skill: Remembering/Understanding
Learning Outcome: 2.4

34) In the equation $2\ H_2 + O_2 \rightarrow 2\ H_2O$, the H_2 molecules are _____ and the H_2O molecules are _____.
A) reactants; products
B) products; reactants
C) created; destroyed
D) used; stored
Answer: A
Topic: 2.9
Skill: Remembering/Understanding
Learning Outcome: 2.4

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35) In plants, the process of photosynthesis produces glucose ($C_6H_{12}O_6$) and oxygen from carbon dioxide and water. Which of the following options about photosynthesis is consistent with this statement?
A) All of the carbon atoms in glucose came from carbon dioxide.
B) More atoms are present at the beginning than at the end.
C) More carbon dioxide is released from the plant than is absorbed.
D) Water is synthesized by the plant from H_2 and O_2.
Answer: A
Topic: 2.9
Skill: Remembering/Understanding
Learning Outcome: 2.4

36) The tendency of water molecules to stick together is referred to as
A) adhesion.
B) polarity.
C) cohesion.
D) transpiration.
Answer: C
Topic: 2.10
Skill: Remembering/Understanding
Learning Outcome: 2.6

37) Water's surface tension and heat storage capacity are accounted for by its
A) orbitals.
B) hydrogen bonds.
C) mass.
D) size.
Answer: B
Topic: 2.10, 2.11
Skill: Remembering/Understanding
Learning Outcome: 2.6

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38) The temperature of evaporation is much higher for water than for alcohol. Without knowing more about the chemistry of alcohol, which of the following is the most logical chemical explanation for this phenomenon?
A) Ionic bonds form between alcohol molecules. These are the weakest type of bond and are easier to break than the hydrogen bonds between water molecules.
B) Alcohol has a higher surface tension than water. This means that alcohol molecules can easily break away from other alcohol molecules and evaporate at a lower temperature.
C) Alcohol molecules are more cohesive than water molecules. This means that as alcohol molecules evaporate, they pull other alcohol molecules into the air along with them.
D) Fewer hydrogen bonds form between alcohol molecules. As a result, less heat is needed for alcohol molecules to break away from solution and enter the air.
Answer: D
Topic: 2.11
Skill: Applying/Analyzing
Learning Outcome: 2.6
Global LO: 2

39) As ice melts
A) hydrogen bonds are broken.
B) water molecules become less tightly packed.
C) the water becomes less dense.
D) heat is released.
Answer: A
Topic: 2.12
Skill: Remembering/Understanding
Learning Outcome: 2.6

40) Which of the following statements about water is *false*?
A) Ice is denser than liquid water.
B) Water naturally exists in all three physical states on Earth.
C) Floating ice on a pond insulates the liquid water below, slowing its rate of freezing.
D) If ice sank, the oceans would eventually freeze solid.
Answer: A
Topic: 2.12
Skill: Remembering/Understanding
Learning Outcome: 2.6

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41) You've made a hot drink by dissolving a teaspoon of instant coffee and a teaspoon of sugar in a cup of hot water. Which of the following statements is *true*?
A) You've just prepared an aqueous solution.
B) The water is the solute portion of the drink.
C) The instant coffee is basic and the water is acidic so they mix well.
D) The instant coffee and sugar dissolve because they have no charged regions to repel the partial positive and partial negative regions of the water molecules.
Answer: A
Topic: 2.13
Skill: Applying/Analyzing
Learning Outcome: 2.6
Global LO: 2

42) Which of the following is dependent on the ability of water molecules to form hydrogen bonds with other molecules besides water?
A) the evaporative cooling of skin surfaces
B) the milder temperatures of coastal regions compared to inland areas
C) the ability of certain insects to walk on the surface of water
D) the universality of water as a solvent
Answer: D
Topic: 2.10, 2.11, 2.13
Skill: Applying/Analyzing
Learning Outcome: 2.6
Global LO: 2

43) Clots in our blood can lead to a heart attack or stroke by blocking blood flow. If a clot were made up of a mass of proteins, what change in the proteins led to the formation of a clot?
A) The proteins became more polar.
B) The blood became saturated with proteins.
C) The proteins were no longer soluble in the blood.
D) The proteins became more soluble in the blood.
Answer: C
Topic: 2.13
Skill: Applying/Analyzing
Learning Outcome: 2.6
Global LO: 2, 5

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44) A pharmaceutical company hires a chemist to analyze the purity of the water being used in its drug preparations. If the water is pure, the chemist would expect to find
A) only molecules of H_2O.
B) only H_2O molecules and H^+ ions.
C) H_2O molecules, H^+ ions, and OH^- ions.
D) only H^+ ions and OH^- ions.
Answer: C
Topic: 2.14
Skill: Remembering/Understanding
Learning Outcome: 2.6

45) A solution with a pH of 7 is
A) strongly acidic.
B) weakly acidic.
C) neutral.
D) weakly basic.
Answer: C
Topic: 2.14
Skill: Remembering/Understanding
Learning Outcome: 2.6

46) Compared to a solution of pH 3, a solution of pH 1 is
A) 100 times more acidic.
B) 10 times more acidic.
C) 10 times more basic.
D) 100 times more basic.
Answer: A
Topic: 2.14
Skill: Applying/Analyzing
Learning Outcome: 2.6
Global LO: 2, 4

47) Which of the following statements about pH is *true*?
A) The pH scale is a measure of oxygen ion concentration.
B) A single unit change on the pH scale is equivalent to a 1% change in hydrogen ion concentration.
C) An increase in hydrogen ion concentration means a decrease in pH scale units.
D) Basic pH levels are less than 7.
Answer: C
Topic: 2.14
Skill: Remembering/Understanding
Learning Outcome: 2.6

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48) Household ammonia has a pH of 12; household bleach has a pH of 13. Which of the following statements about these substances is *true*?
A) Both of these substances are strong acids.
B) The ammonia has 10 times as many OH^- ions as the bleach.
C) The ammonia has 10 times as many H^+ ions as the bleach.
D) A solution that could buffer the bleach and ammonia would remove excess OH^- ions.
Answer: C
Topic: 2.14
Skill: Remembering/Understanding
Learning Outcome: 2.6
Global LO: 4

49) A buffer
A) is an acid that is used to offset overly basic conditions in the body.
B) is a base that is used to offset overly acidic conditions in the body.
C) donates H^+ ions when conditions become too basic and accepts H^+ ions when conditions become too acidic.
D) donates OH^- ions when conditions become too basic and accepts OH^- ions when conditions become too acidic.
Answer: C
Topic: 2.14
Skill: Remembering/Understanding
Learning Outcome: 2.6

50) A diabetic, who does not utilize insulin properly, will metabolize fats instead of glucose. A condition called diabetic ketoacidosis is a common result of excessive fat metabolism, causing blood pH values of 7.1 or less (normal range is 7.35-7.45). What has happened to the blood pH and why?
A) The pH is above normal (basic) because the ketones are too basic.
B) The pH is below normal (acidic) because the buffering capacity was exceeded.
C) The pH is not affected because the blood buffers can absorb the excess H^+.
D) The pH is below normal because buffers can donate OH^+.
Answer: B
Topic: 2.14
Skill: Applying/Analyzing
Learning Outcome: 2.6, 2.7
Global LO: 2, 5

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51) Silicon is an element that is found directly underneath carbon in the periodic table and thus has similar properties to carbon, including electron orbitals. How many electrons are in the valence shell of a silicon atom?
A) 1
B) 2
C) 4
D) 6
Answer: C
Topic: 2.5
Skill: Applying/Analyzing
Learning Outcome: 2.3
Global LO: 2

52) Consider the following situations: (1) a magnesium atom and two chlorine atoms join together to form a molecule of magnesium chloride; (2) water molecules interact with each other in a beaker; and (3) two carbon atoms and six hydrogen atoms join together to form ethane. Rank the strength of the bonding interactions taking place in each situation, from the weakest bonds to the strongest bonds.
A) 1 < 2 < 3
B) 3 < 2 < 1
C) 2 < 3 < 1
D) 2 < 1 < 3
Answer: D
Topic: 2.6, 2.7, 2.8
Skill: Evaluating/Creating
Learning Outcome: 2.4
Global LO: 2

53) In ocean acidification, dissolving CO_2 gas _____ the pH of the ocean.
A) lowers
B) does not affect
C) raises
D) triples
Answer: A
Topic: 2.15
Skill: Remembering/Understanding
Learning Outcome: 2.7

54) How will a lower ocean pH caused by ocean acidification affect coral reefs?
A) Coral reefs will grow faster because there are more carbonate ions available.
B) Coral reefs will grow slower because there are fewer carbonate ions available.
C) Coral reefs will grow faster because there are more bicarbonate ions available.
D) Coral reefs will grow slower because there are fewer bicarbonate ions available.
Answer: B
Topic: 2.15
Skill: Remembering/Understanding
Learning Outcome: 2.7

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55) Glycolysis is the first step of cellular respiration, in which glucose is used to generate ATP to power the cell. The major chemical reaction that takes place in glycolysis (ignoring some other reactants and products) is the conversion of glucose ($C_6H_{12}O_6$) to pyruvate ($C_3H_4O_3$) and hydrogen ions (H^+). Using this information, what is the correct equation for the glycolysis chemical reaction?

A) $C_6H_{12}O_6 \rightarrow C_3H_4O_3 + H^+$

B) $C_6H_{12}O_6 \rightarrow 2\ C_3H_4O_3 + 2\ H^+$

C) $C_6H_{12}O_6 \rightarrow 2\ C_3H_4O_3 + H^+$

D) $2\ C_6H_{12}O_6 \rightarrow C_3H_4O_3 + 2\ H^+$

Answer: B
Topic: 2.9
Skill: Applying/Analyzing
Learning Outcome: 2.4
Global LO: 2, 4

56) Household ammonia, or ammonium hydroxide, is a mixture of ammonia (NH_3) and water. What types of bonding interactions will occur between molecules of ammonia and water in a bottle of household ammonia?

A) polar covalent bonds between positively charged nitrogen atoms in ammonia and negatively charged oxygen atoms in water

B) polar covalent bonds between negatively charged nitrogen atoms in ammonia and positively charged hydrogen atoms in water

C) hydrogen bonds between positively charged nitrogen atoms in ammonia and negatively charged oxygen atoms in water

D) hydrogen bonds between negatively charged nitrogen atoms in ammonia and positively charged hydrogen atoms in water

Answer: D
Topic: 2.8
Skill: Applying/Analyzing
Learning Outcome: 2.4
Global LO: 2

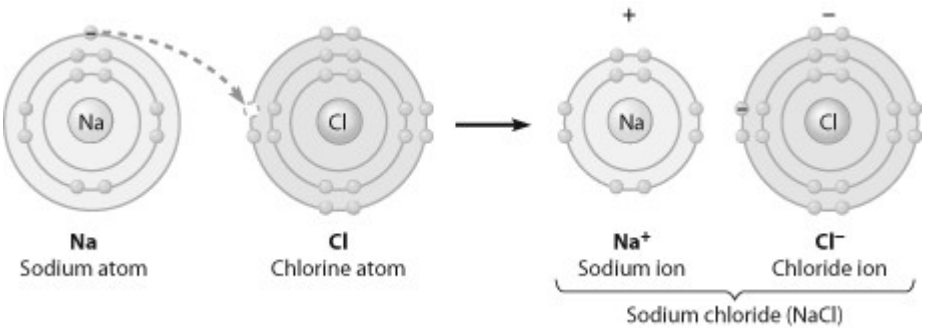
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57) A nutrition facts label from a fortified cereal states that in a single serving of cereal there is 8% of the percent daily value of the element phosphorous. The label also says that a single serving of cereal plus one-half cup of skim milk has 20% of the percent daily value of phosphorus. Which of the following statements is *false*?
A) A half-cup of skim milk contains 12% of the percent daily value of phosphorus.
B) A half-cup of skim milk contains twice as much phosphorus as a serving of cereal.
C) Eating five servings of cereal and two and a half cups of skim milk will give you 100% of the phosphorus that you need for one day.
D) The amount of phosphorus in six servings of cereal is equal to the amount of phosphorus in two cups of skim milk.
Answer: B
Topic: 2.2
Skill: Applying/Analyzing
Learning Outcome: 2.1
Global LO: 2, 4

2.2 Art Questions

1) What change is occurring in this figure?

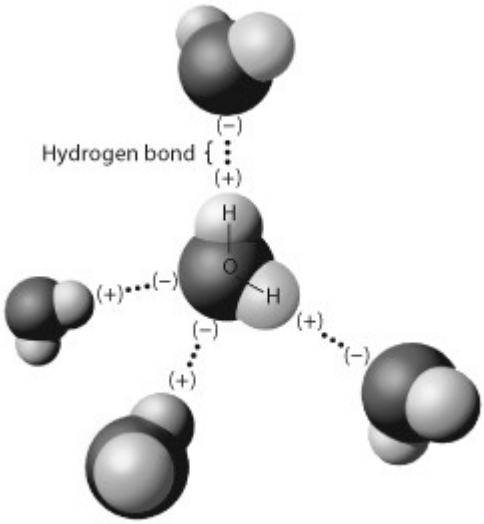


A) Chlorine is losing an electron.
B) Sodium is becoming negatively charged.
C) Sodium is filling its second electron shell.
D) Chlorine is filling its third electron shell.
Answer: D
Topic: 2.7
Skill: Remembering/Understanding
Learning Outcome: 2.3, 2.4
Global LO: 3

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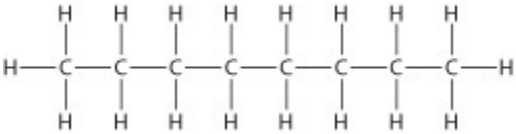
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2) The figure below shows five water molecules. The hydrogen bonds shown in this figure are each between



A) two hydrogen atoms.
B) an oxygen and a hydrogen atom of the same water molecule.
C) an oxygen and a hydrogen atom of different water molecules.
D) two atoms with the same charge.
Answer: C
Topic: 2.8
Skill: Applying/Analyzing
Learning Outcome: 2.4
Global LO: 2, 3

3) Below is the structure of octane, the major component of gasoline. What type(s) of bond(s) is(are) found in a molecule of octane?

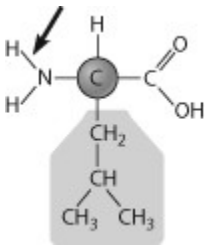


A) only nonpolar covalent bonds
B) only polar covalent bonds
C) hydrogen bonds and polar covalent bonds
D) ionic bonds and nonpolar covalent bonds
Answer: A
Topic: 2.6
Skill: Applying/Analyzing
Learning Outcome: 2.4, 2.5
Global LO: 2, 3

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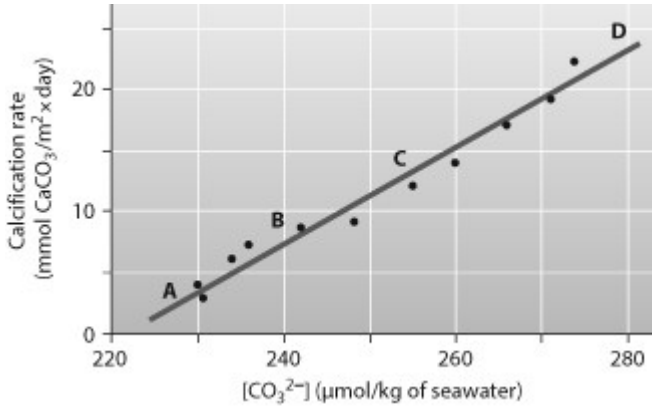
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4) Below is the structure of leucine, an amino acid. What type of bond is the arrow pointing to?



A) a nonpolar covalent bond
B) a polar covalent bond
C) an ionic bond
D) a hydrogen bond
Answer: B
Topic: 2.6
Skill: Applying/Analyzing
Learning Outcome: 2.4, 2.5
Global LO: 2, 3

5) Below is a figure from an experiment that was performed to measure the effect of carbonate ion (CO_3^{2-}) concentration on the calcification (growth) rate of coral reefs. At which point on the graph is the ocean pH the lowest?



A) A
B) B
C) C
D) D
Answer: A
Topic: 2.15
Skill: Evaluating/Creating
Learning Outcome: 2.6
Global LO: 2, 3

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2.3 Scenario Questions

After reading the paragraph below, answer the questions that follow.

You've been experiencing acid indigestion lately, and you'd like a quick fix for the problem. You do a little research on the Internet and discover that your problem is caused by excess stomach acid. In the pharmacy aisles, however, you're having a little trouble deciding what to purchase to address the problem. At the pharmacy counter, the clerk recommends that you purchase PEPCID AC or Alka-Seltzer tablets.

1) If you could check the pH of the recommended tablets, you would expect it to be
A) higher than 7.
B) lower than 7.
C) exactly 7.
D) pH neutral.
Answer: A
Topic: 2.14
Skill: Applying/Analyzing
Learning Outcome: 2.6
Global LO: 2

2) If you were able to chemically analyze your stomach fluids 30 minutes after taking two tablets, you would find
A) more hydrogen ions.
B) fewer hydrogen ions.
C) the same number of hydrogen ions.
D) that the pH in your stomach has decreased.
Answer: B
Topic: 2.14
Skill: Applying/Analyzing
Learning Outcome: 2.6
Global LO: 2, 5, 6

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3) You want to design a controlled experiment to determine which tablet, PEPCID AC or Alka-Seltzer, neutralizes stomach acid the quickest. Which of the following experiments would be the best to perform?
A) Place a PEPCID AC tablet in a beaker of acid at pH 2 and an Alka-Seltzer tablet in a separate beaker of acid at pH 2 and check the pH in the beakers every 2 minutes.
B) Take a PEPCID AC tablet at 8:00 AM on Monday and take an Alka-Seltzer tablet at 8:00 AM on Tuesday and take note of how long it takes you to feel better.
C) Find a group of your friends and go out to a big dinner. Then give half of them a PEPCID AC tablet and give the other half an Alka-Seltzer tablet and tell them to write down how long it takes them to feel better.
D) Place a PEPCID AC tablet in a beaker of acid at pH 2 and an Alka-Seltzer tablet in a separate beaker of acid at pH 2 and record how long it takes for the tablets to dissolve.
Answer: A
Topic: 2.14
Skill: Evaluating/Creating
Learning Outcome: 2.6
Global LO: 1, 2

4) You hypothesize that a tablet of PEPCID AC can neutralize more stomach acid than a tablet of Alka-Seltzer. If you placed a tablet of each antacid in a beaker of acid at an initial pH of 2, which of the following experimental results would support your hypothesis?
A) After 1 hour, the pH of the solution in the PEPCID AC beaker was 9.2 and the pH of the solution in the Alka-Seltzer beaker was 8.3.
B) After 1 hour, the pH of the solution in the PEPCID AC beaker was 7.9 and the pH of the solution in the Alka-Seltzer beaker was 9.6.
C) After 1 hour, the pH of the solution in the PEPCID AC beaker was equal to that of the pH of the solution in the Alka-Seltzer beaker.
D) It took 3 minutes for the PEPCID AC tablet to fully dissolve, and it took 5 minutes for the Alka-Seltzer tablet to fully dissolve.
Answer: A
Topic: 2.14
Skill: Evaluating/Creating
Learning Outcome: 2.6
Global LO: 1, 2

5) You want to design an experiment to compare the effectiveness of Pepcid AC tablets and Alka-Seltzer tablets. Which of the following facts would *be least likely to* complicate your experiment and the analysis of your results?
A) PEPCID AC and Alka-Seltzer tablets contain different concentrations of the antacid drug.
B) PEPCID AC and Alka-Seltzer tablets contain different ingredients.
C) The recommended dosage for PEPCID AC and Alka-Seltzer tablets is different.
D) PEPCID AC and Alka-Seltzer tablets are sold in different countries throughout the world.
Answer: D
Topic: 2.14
Skill: Evaluating/Creating
Learning Outcome: 2.6
Global LO: 1, 2

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After reading the paragraph below, answer the questions that follow.

Uranium is a metallic element that is used in nuclear reactors and nuclear weapons. The vast majority of uranium found on Earth is in the form of uranium-238, an isotope with a mass number of 238, while the uranium that is used for nuclear reactors and weapons is uranium-235, an isotope with a mass number of 235.

6) What is the atomic difference between uranium-235 and uranium-238?
A) Uranium-235 has three fewer protons than uranium-238.
B) Uranium-235 has three fewer neutrons than uranium-238.
C) Uranium-235 has three fewer electrons than uranium-238.
D) Uranium-235 has three fewer atoms than uranium-238.
Answer: B
Topic: 2.3
Skill: Applying/Analyzing
Learning Outcome: 2.2
Global LO: 2, 5

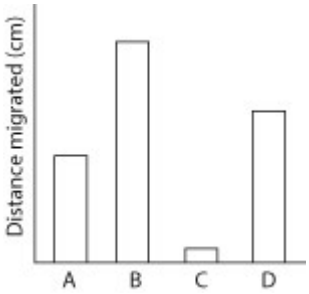
7) If the atomic mass of uranium is 92, how many neutrons does an atom of uranium-235 have in its nucleus?
A) 92
B) 143
C) 146
D) 235
Answer: B
Topic: 2.3
Skill: Applying/Analyzing
Learning Outcome: 2.2
Global LO: 2, 4, 5

8) In a certain type of nuclear reactor, uranium-238 can be converted to plutonium-239, another radioactive element (with an atomic number of 94) that can be used to power nuclear reactions. Which of the following statements regarding uranium-238 and plutonium-239 is *false*?
A) An atom of plutonium-239 contains one more proton than an atom of uranium-238.
B) An atom of plutonium-239 contains 145 neutrons.
C) An atom of uranium-238 has a smaller mass than an atom of plutonium-239.
D) An atom of plutonium-239 contains two more protons and one fewer neutron than an atom of uranium-238.
Answer: A
Topic: 2.3
Skill: Applying/Analyzing
Learning Outcome: 2.2
Global LO: 2, 4, 5

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After reading the paragraph below, answer the questions that follow.



Thin-layer chromatography is a method that can be used to separate molecules by their polarity. A mixture of molecules in a nonpolar liquid (the mobile phase) is added to the bottom of a piece of adsorbent material (the stationary phase) and allowed to migrate up the material. More-polar molecules interact more strongly with the stationary phase and thus migrate less. Less-polar molecules interact less strongly with the stationary phase and thus migrate more. Below are sample data for four different molecules from a thin-layer chromatography experiment. [Art: custom PowerPoint figure created by the author]

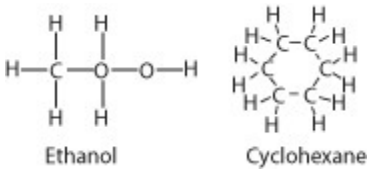
9) What can you conclude from these data?
A) Molecule B contains many C-H bonds.
B) Molecule C is the most polar molecule.
C) Molecule D is more polar than molecule A.
D) Molecule A is an ion.
Answer: B
Topic: 2.6
Skill: Applying/Analyzing
Learning Outcome: 2.4, 2.5
Global LO: 2, 3

10) Molecule C could possibly contain many of which of the following bonds?
A) C-C
B) C-H
C) O=O
D) C-O
Answer: D
Topic: 2.6
Skill: Applying/Analyzing
Learning Outcome: 2.4, 2.5
Global LO: 2

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11) Below are the structures of two molecules: ethanol and cyclohexane. Which would migrate farther in a thin-layer chromatography experiment? [Art: modified from Wikipedia images of the structures]



A) Cyclohexane would migrate farther.
B) Ethanol would migrate farther.
C) Cyclohexane and ethanol would migrate equal distances.
Answer: B
Topic: 2.6
Skill: Evaluating/Creating
Learning Outcome: 2.4, 2.5
Global LO: 2

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Chapter 2: Research Methods

Total Assessment Guide

Topic		Factual	Conceptual	Applied
Quick Quiz 1	Multiple Choice	1, 3, 5, 7, 9	6, 10	2, 4, 8
Quick Quiz 2	Multiple Choice	1, 3, 5–6, 9	7, 10	2, 4, 8
Introduction and Learning Objective 2.1a Identify two modes of thinking and their application to scientific reasoning.	Multiple Choice	6–9, 11	1–5	10
	Fill-in-the-Blank	1–2		
	Essay			
	Critical Thinking			
Learning Objective 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.	Multiple Choice	12, 14–16, 22, 26–27, 31, 33, 36, 42	23, 25, 28–29, 43, 46–47, 49	13, 17–21, 24, 30, 32, 34–35, 37–41, 44–45, 48, 50–52
	Fill-in-the-Blank		4, 6	3, 5
	Essay			
	Critical Thinking			
Learning Objective 2.2b Describe the role of correlational designs and distinguish correlation from causation.	Multiple Choice	54, 56, 62, 65–66, 70, 75–76	77, 79	53, 55, 57–61, 63–64, 67–69, 71–74
	Fill-in-the-Blank	7, 9	8, 10	
	Essay	1		2
	Critical Thinking			
Learning Objective 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.	Multiple Choice	78, 80–81, 83, 88–90, 97–98, 100, 103, 107, 109–110, 112	79, 96, 101–102, 106, 113–114	82, 84–87, 91–95, 99, 104–105, 108, 111, 115–116
	Fill-in-the-Blank	11–13, 17	14, 16	15
	Essay	1		
	Critical Thinking			
Learning Objective 2.3a Explain the ethical obligations of researchers toward their research participants.	Multiple Choice	117, 119, 122	120	118, 121, 123–125
	Fill-in-the-Blank	18		
	Essay	3		
	Critical Thinking			
Learning Objective 2.3b Describe both sides of the debate on the use of animals as research subjects.	Multiple Choice	126	128	127
	Fill-in-the-Blank			
	Essay			
	Critical Thinking			
Learning Objective 2.4a Identify uses of various measures of central tendency and variability.	Multiple Choice	129–132, 140–143	133, 137, 139	134–136, 138, 144
	Fill-in-the-Blank	22	21	19–20
	Essay		4	
	Critical Thinking		1	
Learning Objective 2.4b Explain how inferential statistics can help us to determine whether we can generalize from our sample to the full population.	Multiple Choice	146–147	148	145, 149–150
	Fill-in-the-Blank			
	Essay			
	Critical Thinking			

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Topic		Factual	Conceptual	Applied
Learning Objective 2.4c Show how statistics can be misused for purposes of persuasion.	Multiple Choice			
	Fill-in-the-Blank			
	Essay			
	Critical Thinking			
Learning Objective 2.5a Identify flaws in research designs and how to correct.	Multiple Choice	151–152		23
	Fill-in-the-Blank			
	Essay			
	Critical Thinking			
Learning Objective 2.5b Identify skills for evaluating psychological claims in the popular media.	Multiple Choice		154, 156–157	153–155
	Fill-in-the-Blank		25	24
	Essay		5	
	Critical Thinking			

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Name _____

Chapter 2 Quick Quiz 1

1. When a researcher tests his or her hypothesis, he or she is often hoping to gather information that is consistent with a particular theory. What, more specifically, allows a researcher to say that he or she has "proven" a theory?
   A) Any time a hypothesis is confirmed, a theory is automatically "proven."
   B) Any time a hypothesis confirms one theory and simultaneously disconfirms at least one other theory, a theory has been "proven."
   C) Any time a hypothesis confirms one theory and simultaneously disconfirms all other known theories, a theory has been "proven."
   D) A researcher is never able to say that he or she has "proven" a theory.

2. Dr. Potter, an English professor, is curious about his students' attitudes toward one of his favorite books. What research method is he most likely to use to gather this information?
   A) survey
   B) case study
   C) experiment
   D) naturalistic observation

3. A graph that can be used to represent the pattern of relationship between scores from two variables is called a _____.
   A) bar graph
   B) frequency polygon
   C) histogram
   D) scatterplot

4. Ryan, a professional bass fisherman, is trying to determine which lure is most effective on Wakeby Lake—the plastic worm he normally uses, or the new minnow-style lure he bought yesterday. Based on this scenario, what would constitute the control?
   A) the new minnow lure
   B) the plastic worm
   C) neither the minnow lure nor the plastic worm
   D) there is no control.

5. The _____ variable is what the researcher "manipulates," or varies, in an experimental study.
   A) control
   B) dependent
   C) operational
   D) independent

6. Students of psychology are often frustrated because there are very few, if any, clear-cut answers to many of their questions. What is the primary limiting factor in obtaining firsthand knowledge of questions such as the long-term effects of child abuse or the effects of smoking marijuana on a pregnancy?
   A) Most people in the general public are not concerned with these issues.
   B) It is difficult to find people who are victims of abuse or mothers who smoke marijuana during pregnancy.
   C) Ethical guidelines in research prevent psychologists from carrying out many of these studies.
   D) Institutional review boards encourage participation in studies that may be harmful to participants either mentally or physically.

7. Which of the following is one of the two types of statistics that researchers use to analyze the data that they collect?
   A) predictive statistics
   B) constrictive statistics
   C) descriptive statistics
   D) computational statistics

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8. A therapist wishes to show that his new therapy is a marked improvement over the current best available therapy. To do so, he examines the number of participants who improved with each. A total of 125 participants received his treatment (and 100 of them improved). A total of 80 participants received the alternative treatment (and 64 of them improved). What should the therapist conclude?

A) His treatment is superior to the alternative because 100 is greater than 64.
B) His treatment is no better than the alternative because the percentages are the same.
C) His treatment is inferior because the percentages are the same.
D) His treatment is superior because it included 125 people as opposed to 80.

9. A mechanism by which experts in a field carefully screen the work of their colleagues is known as _____.

A) experimental validity
B) experimenter bias effect
C) peer review
D) peer assessment

10. A major limitation in reading about the results of psychological research in the newspaper is that _____.

A) reporters provide too much detailed information about the research study that the general public cannot comprehend in their articles
B) reporters are so well trained to discuss research that they cannot easily communicate about it with the average lay person
C) reporters create controversy where none exists by treating scientific evidence and dissenter's biased opinions as equally compelling
D) reporters do not know how to identify experts to interview for many of their stories, and end up unintentionally misleading the public

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Chapter 2 Quick Quiz 1 Answer Key

1. D Explanation: Because we can never be 100 percent certain that the theory we have forwarded is correct, the use of the term "prove" is generally incorrect. (Scientific Methodology: A Toolbox of Skills, Factual, APA LO 2.1, TEXT LO 2.2a)

2. A Explanation: The survey method is most appropriate when we are interested in people's attitudes or opinions. (Scientific Methodology: A Toolbox of Skills, Applied, APA LO 1.3, TEXT LO 2.2a)

3. D Explanation: Scatterplots give an overall image of the correlation between variables. (Topic: Scientific Methodology: A Toolbox of Skills, Factual, APA LO 1.1, TEXT LO 2.2b)

4. B Explanation: A control receives no manipulation in an experiment. In this case, normal use of the plastic worm suggests lack of manipulation. (Scientific Methodology: A Toolbox of Skills, Applied, APA LO 1.3, TEXT LO 2.2c)

5. D Explanation: The independent variable is sometimes referred to as the manipulated variable. (Scientific Methodology: A Toolbox of Skills, Factual, APA LO 1.1, TEXT LO 2.2c)

6. C Explanation: Due to ethical considerations, we cannot randomly assign children to abusive or nonabusive homes, for example. Thus, it is impossible to say whether A causes B, in many cases. (Ethical Issues in Research Design, Conceptual, APA LO 3.1, TEXT LO 2.3a)

7. C Explanation: Descriptive and inferential statistics are the two basic types that are used in psychology. (Statistics: The Language of Psychological Research, Factual, APA LO 1.1, TEXT LO 2.4a)

8. B Explanation: He has found the same probability in both cases, so there is no statistical difference between the two participant groups. (Statistics: The Language of Psychological Research, Applied, APA LO 1.3, TEXT LO 2.4b)

9. C Explanation: Peer review is one of the most important safeguards against the dissemination of inappropriate or invalid research. (Evaluating Psychological Research, Factual, APA LO 1.1, TEXT LO 2.5a)

10. C Explanation: This is an important point to make, because those without basis for opinions are often given the same weight as those who do have scientific basis for opinions. (Evaluating Psychological Research, Conceptual, APA LO 1.3, TEXT LO 2.5b)

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Name _____

Chapter 2 Quick Quiz 2

1. Which Nobel Prize–winning psychologist proposed the idea that there are two different types of thinking systems, one that works intuitively and another that works analytically?
   A) Kahneman
   B) Piaget
   C) Newman
   D) Zarski

2. Sarah, a graduate student in psychology, just heard about a five-year-old child who has already learned calculus. She is thinking about doing an in-depth study of the child for her dissertation because such early-life math skill is so rare. Sarah is considering which research method?
   A) naturalistic observation
   B) experiment
   C) independent study
   D) case study

3. The perception of a statistical association between two variables where none exists is known as _____.
   A) confirmation bias
   B) illusory correlation
   C) existence proof
   D) Type I error

4. Dr. Johansen randomly assigned research participants to three different groups during her last experiment. She then proceeded to give all the participants in the experiment a new study technique designed to enhance their learning for the upcoming test. What critical error did she make during her experiment?
   A) She failed to identify the independent variable.
   B) She failed to identify the dependent variable.
   C) She failed to include an experimental group.
   D) She failed to include a control group.

5. The variable that an experimenter assesses or measures to determine whether or not the manipulation has had an effect is the _____ variable.
   A) causal
   B) confounding
   C) dependent
   D) independent

6. What is the purpose of an institutional review board?
   A) to help protect research participants from abuse
   B) to hinder the research process by placing unnecessary hurdles in the way of researchers
   C) to help protect the university from lawsuits from unhappy research participants
   D) to encourage the use of deception in medical and psychological research with humans

7. In which situation would presenting the mean as one's measure of central tendency be least accurate?
   A) when the distribution is normally distributed
   B) when the distribution is negatively skewed
   C) when the distribution is bimodal
   D) when there are many scores in the data set

8. After carefully observing thousands of students, Dr. O'Brien revealed to his colleagues that students with brown eyes are statistically more likely to write with pens instead of pencils. Although his colleagues did not question his statistics, they did suggest that a finding such as this lacked _____.
   A) authenticity
   B) standardization
   C) statistical measures
   D) practical significance

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9. The peer review process is designed to _____.
A) block alternative therapies from being made available to the general public
B) identify flaws in a research study's methods, findings, and conclusions
C) make researchers feel bad when their article is not published
D) place obstacles in front of people whose theories differ from mainstream science

10. A key factor to consider when reading about the results of a study on the Internet, in a newspaper, or in a news magazine is to _____.
A) consider the source of the information
B) determine how well it fits with what others have told you in the past.
C) rely on your common sense or "gut" intuition.
D) popular media outlets always have inaccurate information.

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Chapter 2 Quick Quiz 2 Answer Key

1. A Explanation: Daniel Kahneman was the psychologist who proposed this idea. (The Beauty and Necessity of Good Research Design, Factual, APA LO 1.1, TEXT LO 2.1a)

2. D Explanation: Case studies involve in-depth analyses of one or a few participants. (Scientific Methodology: A Toolbox of Skills, Applied, APA LO 1.3, TEXT LO 2.2a)

3. B Explanation: We often fall victim to this illusion, even when no relationship has been shown to truly exist. (Scientific Methodology: A Toolbox of Skills, Factual, APA LO 1.1, TEXT LO 2.2b)

4. D Explanation: In an experiment, we need to ensure that there is a group that receives the "active" treatment and a group that receives a "placebo" treatment (in this case, a study technique that has already been tested). (Scientific Methodology: A Toolbox of Skills, Applied, APA LO 1.3, TEXT LO 2.2c)

5. C Explanation: This variable is sometimes called the outcome variable, or the measured variable. (Scientific Methodology: A Toolbox of Skills, Factual, APA LO 1.1, TEXT LO 2.2c)

6. A Explanation: IRBs represent a very important line of defense against intentional or unintentional abuse or harming of research participants. (Ethical Issues in Research Design, Factual, APA LO 3.1, TEXT LO 2.3a)

7. B Explanation: The mean is adversely affected by positively or negatively skewed data sets. (Statistics: The Language of Psychological Research, Conceptual, APA LO 1.3, TEXT LO 2.4a)

8. D Explanation: Practical significance refers to whether a statistical difference "makes a difference" in the real world. (Statistics: The Language of Psychological Research, Applied, APA LO 1.3, TEXT LO 2.4b)

9. B Explanation: It is important to have one's peers put "objective eyes" on research to make sure that it is as free from errors and biases as possible. (Evaluating Psychological Research, Factual, APA LO 1.1, TEXT LO 2.5a)

10. A Explanation: Correct. One must always consider the source from which information is drawn. (Evaluating Psychological Research, Conceptual, APA LO 1.3, TEXT LO 2.5b)

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Chapter 2: Research Methods

Test Bank

Multiple Choice

1. Your textbook discusses the issue of facilitated communication and its applicability to assisting children with autism spectrum disorder. One possibility for the early research results was that the children were communicating through the adults who were assisting them. As the text notes, another explanation for the miraculous findings was that the "facilitators" were simply guiding the hands of the children to communicate things that their parents would want to hear. This alternate explanation is consistent with the concept of _____.
A) replicability
Incorrect. Though replication of early findings was a problem for the issue of facilitated communication, it is not the answer to this particular question.
B) ruling out rival hypotheses
Correct. Before we accept a given explanation as accurate, we have to ask whether there are other feasible explanations that can better account for a given phenomenon.
C) falsifiability
D) correlation vs. causation
Answer: B
Diff: 2
Skill: Conceptual
APA LO: 2.1
TEXT LO: Introduction
Topic: Introduction

2. What is one take home message from the discussion of autism and facilitated communication?
A) Children with autism spectrum disorder want to communicate with their parents but need someone to facilitate the process.
B) In almost all cases researched, the data failed to support the idea that facilitated communication was truly effective.
Correct. Your authors note that in nearly 100% of cases tested, the picture flashed to the facilitator was the word typed.
C) Psychological research is dangerous because it allows anyone to find support for any idea or opinion.
Incorrect. While this may be true in some cases, this is not the prevailing message that the authors are trying to convey.
D) The scientific method is not an effective means for finding solutions for persons who live with autism and other psychological disorders.
Answer: B
Diff: 3
Skill: Conceptual
APA LO: 1.3
TEXT LO: Introduction
Topic: Introduction

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3. Contradicting years of theory and practice, Douglas Biklen claimed that children with autism spectrum disorder could, in fact, communicate with the aid of a “facilitator.” With his help, these children gave messages of love and warmth to their parents, many of whom had been without such affection since their children were born. When the evidence of this “facilitated communication” is examined, which principle of critical thinking from your chapter is not supported?
A) Occam’s Razor
B) correlation vs. causation
C) falsifiability
Incorrect. In this case, the claims were falsifiable as demonstrated by ongoing research.
D) extraordinary claims
Correct. The extraordinary claims that children with autism spectrum disordercould suddenly be given an avenue to communicate effectively was belied by the research evidence, which showed facilitated communication to be without validity of any kind.
Answer: D
Diff: 2
Skill: Conceptual
APA LO: 2.1
TEXT LO: Introduction
Topic: Introduction

4. The discussion on the topic of facilitated communication demonstrated the importance of which critical component of critical thinking?
A) developing falsifiable hypotheses
Incorrect. In this case, the claims were falsifiable as demonstrated by ongoing research.
B) parsimonious theories
C) replication of earlier research findings
D) ruling out rival hypotheses
Correct. As it turned out, research demonstrated that facilitated communication had no true research validity, and an alternate explanation was needed. That explanation was that the “facilitators” were actually the ones doing the communicating, not the children with autism spectrum disorder.
Answer: D
Diff: 2
Skill: Conceptual
APA LO: 2.1
TEXT LO: Introduction
Topic: Introduction

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5. The use of the prefrontal lobotomy was, for quite some time, regarded as a miracle treatment for people suffering from schizophrenia and other mental illnesses. The amazing nature of this treatment was not, however, supported by research into its effectiveness. Which concept of critical thinking is important to consider in this example?
A) correlation vs. causation
B) replicability
Incorrect. Because there was no scientific research that supported the claims of the effectiveness of the lobotomy, there would be nothing to be replicated. Therefore this answer is not the best choice.
C) Occam's Razor
D) extraordinary claims
Correct. Remember that extraordinary claims, including "miracle cures," must be supported by extraordinary evidence. That evidence was sorely lacking in the case of the prefrontal lobotomy.
Answer: D
Diff: 2
Skill: Conceptual
APA LO: 1.3
TEXT LO: 2.1a Identify two modes of thinking and their application to scientific reasoning.
Topic: The Beauty and Necessity of Good Research Design

6. Once controlled research studies were conducted on the effectiveness of prefrontal lobotomies, they were discovered to be _____.
A) slightly effective
B) sometimes effective, sometimes not
C) universally effective
D) essentially useless
Answer: D
Diff: 1
Skill: Factual
APA LO: 2.2
TEXT LO: 2.1a Identify two modes of thinking and their application to scientific reasoning.
Topic: The Beauty and Necessity of Good Research Design

7. When a psychologist is discussing a *heuristic*, he or she is referring to _____.
A) biased information processing strategies
B) a mental shortcut or rule of thumb
C) a mental technique to improve memory recall
D) a mental technique to increase deliberation in our decision making
Answer: B
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.1a Identify two modes of thinking and their application to scientific reasoning.
Topic: The Beauty and Necessity of Good Research Design

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8. A mental shortcut that helps us to streamline our thinking and make sense of our world is called a _____.
A) theory
B) heuristic
C) schema
D) mental reference
Answer: B
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.1a Identify two modes of thinking and their application to scientific reasoning.
Topic: The Beauty and Necessity of Good Research Design

9. Which Nobel Prize–winning psychologist proposed the idea that there are two different types of thinking systems, one that works intuitively and another that works analytically?
A) Kahneman
Correct. Daniel Kahneman was the psychologist who proposed this idea.
B) Piaget
Incorrect. Piaget's contributions to cognitive theory do not include these ideas.
C) Newman
D) Zarski
Answer: A
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.1a Identify two modes of thinking and their application to scientific reasoning.
Topic: The Beauty and Necessity of Good Research Design

10. When Anya sees an item at the toy store, she buys it without thinking. Her intuition tells her that her daughter will love it as a Christmas gift. This is an example of _____ thinking in Daniel Kahneman's model.
A) divergent
B) convergent
C) System 2
Incorrect. System 2 thinking is analytical and deliberate.
D) System 1
Correct. System 1 thinking is intuitive and somewhat automatic.
Answer: D
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.1a Identify two modes of thinking and their application to scientific reasoning.
Topic: The Beauty and Necessity of Good Research Design

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11. Stopping to take time, consider all of the details, and make a well-reasoned and careful decision are all features that typify Daniel Kahneman's _____ thinking.
A) System 2
Correct. System 2 thinking is analytical and deliberate.
B) functional
C) System 1
Incorrect. System 1 thinking is intuitive and somewhat automatic.
D) introspective
Answer: A
Diff: 3
Skill: Factual
APA LO: 1.1
TEXT LO: 2.1a Identify two modes of thinking and their application to scientific reasoning.
Topic: The Beauty and Necessity of Good Research Design

12. When a researcher tests his or her hypothesis, he or she is often hoping to gather information that is consistent with a particular theory. What, more specifically, allows a researcher to say that he or she has "proven" a theory?
A) Any time a hypothesis is confirmed, a theory is automatically "proven."
B) Any time a hypothesis confirms one theory and simultaneously disconfirms at least one other theory, a theory has been "proven."
C) Any time a hypothesis confirms one theory and simultaneously disconfirms all other known theories, a theory has been "proven."
D) A researcher is never really able to say that he or she has "proven" a theory.
Answer: D
Diff: 3
Skill: Factual
APA LO: 2.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

13. Which of the following is one of the questions that a researcher should ask herself before conducting a research study?
A) "How can I avoid using statistics to analyze my results?"
B) "What research methods should I use to test my idea?"
Correct. In fact, this should be one of the first questions asked after the idea has been formulated.
C) "Will I be able to prove my hypothesis?"
Incorrect. Recall from your chapter that a true theory cannot be proven. It simply stands as the best model, based on the available data, until a better model replaces it.
D) "How can I guarantee that I obtain subjective results?"
Answer: B
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

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14. According to your text authors, what do researchers in psychology use to try to avoid making errors and get an accurate view of the world?
A) peer review
Incorrect. Peer review is an important part of the research and publishing process, but this is not the best answer to the question.
B) local and state laws regarding research methodologies
C) statistics
D) a variety of scientific methods
Correct. As your text notes, there is not one single scientific method but rather a "toolbox" of different scientific strategies.
Answer: D
Diff: 2
Skill: Factual
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

15. Which of the following statements is TRUE about naturalistic observation?
A) It re-creates natural conditions in the laboratory as closely as possible to make an experiment more valid.
B) It involves observing behavior in its real-world context.
C) It is basically the same process as objective introspection.
D) It involves observing behavior in the lab without taking formal notes or using technological equipment to measure the experimental findings.
Answer: B
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills
% correct 75 a = 14 b = 75 c = 0 d = 11 r = .53
% correct 74 a = 21 b = 74 c = 0 d = 5 r = .66

16. Watching behavior in real-world settings while doing your best to avoid influencing those you are watching is known as _____.
A) case study
B) correlation design
C) naturalistic observation
D) existence proof
Answer: C
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
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17. Dr. Watson wanted to know which gender was better at sharing at the sixth-grade level, so he went to the local middle school to observe groups of children during lunch periods. He did this while making sure that the children were not aware that they were being watched, but the school principal gave him permission for this activity. This is a form of _____.
A) case study
B) naturalistic observation
Correct. Naturalistic observation entails watching behavior in a real-world settings.
C) experimental design
Incorrect. Naturalistic observation takes place in the real world. Experimental designs take place in a laboratory setting.
D) confirmation bias
Answer: B
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

18. A researcher is interested in determining how frequently bullying behavior occurs in real-life settings. This researcher would best be advised to use the _____ design.
A) case study
B) correlational
C) experimental
Incorrect. Naturalistic observation takes place in the real world. Experimental designs take place in a laboratory setting.
D) naturalistic observation
Correct. Naturalistic observation occurs in the real world, rather than in a laboratory.
Answer: D
Diff: 2
Skill: Applied
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills
% correct 84 a = 11 b = 0 c = 5 d = 84 r = .32

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19. A group of student researchers divide up the different times and buildings on their campus to attempt to observe when people will hold a door open for another person. These student researchers are most likely to use which research method design when conducting their study?
A) case study design
B) correlational design
C) experimental design
Incorrect. Naturalistic observation takes place in the real world. Experimental designs take place in a laboratory setting.
D) naturalistic observation design
Correct. Naturalistic observation occurs in the real world, rather than in a laboratory. This is how one can most effectively assess behaviors without influencing them.
Answer: D
Diff: 1
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills
% correct 75 a = 6 b = 19 c = 0 d = 75 r = .23

20. Jason was conducting an evaluation of a restaurant waitress. He sat at the table with a list of things to observe in front of him, and the waitress noticed that he was assessing her every move. He noticed that she began acting more professionally around him, was friendlier, and gave him extra attention. Why would Jason have been better off using naturalistic observation for this assessment?
A) So that he could have more experimental control over his independent variable.
Incorrect. Remember that naturalistic observation is not a form of experimental research, and so one of its drawbacks is a lack of control.
B) So that he would be sure to "catch" the waitress behaving unprofessionally.
C) So that he could have been sure to get enough data to use proper statistics.
D) So that his observations would not have changed the waitress's behaviors.
Correct. Naturalistic observation involves watching behaviors take place without influencing them. This way the researcher can get a true and objective "picture" of how those behaviors take place.
Answer: D
Diff: 1
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
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21. Professor Williams wants to know if "real" college students exhibit the same kinds of behaviors in class that subjects who were paid to act like college students do. She decides to have someone come in once a week to her classes to record the types of nonverbal behaviors that students engage in while listening to her lectures. This would be an example of which kind of study?
A) a formal experiment
Incorrect. In this study there is no manipulation of one variable to explore its effect on a second variable. This research is naturalistic observation.
B) naturalistic observation
Correct. Naturalistic observation involves watching and recording participants' behavior, often without their knowledge.
C) case study
D) survey research
Answer: B
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

22. The extent to which it is possible to draw cause-and-effect conclusions from a given research project describes the study's _____ validity.
A) construct
B) cohesive
C) external
D) internal
Answer: D
Diff: 3
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

23. Because they offer a high level of control over key variables, laboratory experiments tend to have a high level of _____.
A) internal validity
Correct. Internal validity is the extent to which we can draw cause-and-effect inferences from our research data.
B) test-retest reliability
Incorrect. Test-retest reliability refers to the consistency of findings from one administration of an assessment tool to the next.
C) external validity
D) confound reliability
Answer: A
Diff: 3
Skill: Conceptual
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
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24. Vincent is designing a research study as part of his master's thesis. He wants to do a laboratory study where he can control as many variables as possible, but he is concerned that his findings will not generalize very well from the laboratory setting to the real world. In technical terms, Vincent is concerned about the _____ of his study.
A) internal validity
B) test-retest reliability
Incorrect. Test-retest reliability refers to the consistency of findings from one administration of an assessment tool to the next.
C) external validity
Correct. External validity refers to the extent to which we can generalize findings from a research study to real world settings.
D) confound reliability
Answer: C
Diff: 3
Skill: Applied
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

25. A student researcher wishes to maximize the external validity of his or her research design. What research method should you recommend to him or her?
A) case study design
B) correlational design
C) experimental design
Incorrect. The primary benefit of experimental designs is that they are high in internal validity. The generalizability, or external validity, of such research is sometimes quite low.
D) naturalistic observational design
Correct. Because naturalistic observations often generalize well to the real world, they are high in external validity.
Answer: D
Diff: 3
Skill: Conceptual
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
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26. The extent to which the findings of a given research study can generalize to a population of people beyond that study and the laboratory is called _____.
A) external validity
Correct. External validity is an important measure of the value of research results outside of that individual study.
B) test-retest reliability
C) internal validity
Incorrect. Internal validity is a measure of the extent to which a researcher can draw cause-and-effect conclusions form his or her study results.
D) interrater reliability
Answer: A
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

27. This research design involves an extremely deep and detailed information gathering from a single individual or a small number of people, often over an extended period of time.
A) case study design
B) correlational design
C) experimental design
D) naturalistic observation design
Answer: A
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

28. Which of the following is one of the primary benefits of the case study method of conducting research?
A) They can be helpful in providing existence proofs.
Correct. Existence proofs, which are demonstrations that a particular psychological phenomenon can occur, are actually assisted by case study research.
B) They have a very high level of external validity.
Incorrect. In fact, one problem with case studies is that they often have a low level of external validity.
C) They are the only type of research that allows for cause-and-effect conclusions.
D) They are resistant to heuristic biases that can skew results.
Answer: A
Diff: 3
Skill: Conceptual
APA LO: 2.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

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29. The study of rare or unusual phenomena is most easily done through the use of the _____ design.
A) case study
Correct. Because case studies can get unusually high levels of detail information, there are very useful for studying rare or unusual phenomena.
B) correlational
C) experimental
Incorrect. In fact, rare or unusual phenomena occur so infrequently that they are not effectively studied using experimental designs.
D) observational
Answer: A
Diff: 2
Skill: Conceptual
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

30. Sarah, a graduate student in psychology, just heard about a five-year-old child who has already learned calculus. She is thinking about doing an in-depth study of the child for her dissertation because such early-life math skill is so rare. Sarah is considering which research method?
A) naturalistic observation
Incorrect. While naturalistic observation might give Sarah some useful information about this five-year-old child, in order to get the depth that she is looking for she would have to do a case study.
B) experiment
C) independent study
D) case study
Correct. Case studies involve in-depth analyses of one or a few participants.
Answer: D
Diff: 1
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

31. Psychologists who want to find out about people's personalities or interests would find a(n) _____ an effective research tool.
A) naturalistic observation
B) experiment
C) case study
D) questionnaire
Answer: D
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
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32. Dr. Potter, an English professor, is curious about his students' attitudes toward one of his favorite books. What research method is he most likely to use to gather this information?
A) case study
Incorrect. Because Dr. Potter wants to get information from multiple students, a case study would not be an effective way of gathering that information.
B) survey
Correct. The survey method is most appropriate when we are interested in people's attitudes or opinions.
C) experiment
D) naturalistic observation
Answer: B
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

33. The most important factor to ensure that one's results apply to other people in other settings is to use _____.
A) extremely large sample sizes
B) extremely small sample sizes
C) random assignment
D) random selection
Answer: D
Diff: 2
Skill: Factual
APA LO: 2.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills
% correct 67 a = 11 b = 5 c = 17 d = 67 r = .68
% correct 63 a = 21 b = 5 c = 11 d = 63 r = .63

34. Sue asked three of her friends after class if they thought the test they just finished taking was as easy as she thought it was. They all agreed that it was. She was surprised to find out the next day that, although she and her friends had indeed done well, a majority of the class had failed. Why shouldn't Sue have been surprised?
A) Most of the students did not study for the test.
B) She did not use random selection when asking people about the test.
Correct. Without random selection, we can't be sure whether the group we've selected is representative of the larger group.
C) Students should have been randomly assigned to take the tests on different days.
Incorrect. The concept of randomness is important to answer this question, but the correct answer is random selection, not random assignment.
D) Her friends shouldn't have expressed their views regarding the test.
Answer: B
Diff: 3
Skill: Applied
APA LO: 2.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
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35. The large difference in the percentage of women who were married for five or more years who admitted to extramarital affairs in the *Hite Report* versus the results of a Harris organization poll was most likely due to _____.
A) demand characteristics
B) how the questions were worded in each study
Incorrect. It is not the wording of the questions that was the problem, rather the way participants were selected.
C) the method of participant selection used in each study
Correct. As your text points out, random selection was not used in this case.
D) the use of covert versus participant observation
Answer: C
Diff: 3
Skill: Applied
APA LO: 2.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

36. _____ is consistency of measurement.
A) Random assignment
B) Validity
C) Reliability
D) Confounding variable
Answer: C
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills
% correct 58 a = 0 b = 26 c = 58 d = 16 r = .47

37. Dr. Sparks is concerned because he gave Julie a new intelligence test that he personally designed and her scores do not seem very consistent. With which aspect of psychological testing is Dr. Sparks concerned?
A) validity
Incorrect. Validity is the extent to which a measure assesses what it claims to measure.
B) self-report measures
C) reliability
Correct. Reliability is the extent to which test scores are consistent.
D) falsifiability
Answer: C
Diff: 1
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills
% correct 47 a = 36 b = 11 c = 47 d = 6 r = .43

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38. Dr. Riviera measures his students' knowledge on the topic of memory by giving them three different quizzes over the course of 3 weeks (1 per week). He is hoping to show that student scores are largely the same from week to week. He is trying to establish the _____ of his quiz.
A) objectivity
B) reliability
Correct. Reliability is the extent to which test scores are consistent.
C) subjectivity
D) validity
Incorrect. Validity is the extent to which a measure assesses what it claims to measure.
Answer: B
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

39. When assessing patients' personalities using an "ink blot" test that she created, Dr. Hardcastle is gaining confidence in the test's reliability. Which of the following is likely to be happening?
A) Her patients are enjoying being tested every day at the same time.
B) The test is generating approximately the same results each time it is administered to the same person.
Correct. We have evidence of reliability when test scores are consistent, or similar, each time the test is administered to the same person.
C) The test is measuring what it is supposed to be measuring across different test takers.
Incorrect. This concept would refer to validity, not reliability.
D) The test is likely to be uninformative, and it has very poor interpretive value.
Answer: B
Diff: 1
Skill: Applied
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

40. Brittany, a softball player who plays catcher for the local college, has thrown out base stealers at a 42-, 39-, and 41-percent rate over her three years. Her performance could be considered which of the following?
A) valid
Incorrect. Validity is the extent to which a measure assesses what it claims to measure.
B) invalid
C) reliable
Correct. Reliability refers to the extent to which performance is consistent.
D) n reliable
Answer: C
Diff: 1
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
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41. Jack, Martin, and Gene are all psychologists who are asked to consult on a difficult case. They are all given the results of a particular client's Rorschach Test and are asked to come up with independent assessments of the results. All three psychologists have approximately the same level of training, and their findings are very similar. From a research perspective, one could say that there was a high level of _____ reliability between the three reports.
A) interrater
Correct. Interrater reliability *refers to the extent to which different people agree on a given finding, whether it refers to a behavioral observation or an interview outcome.*
B) construct
C) external
D) predictive
Incorrect. Predictive validity refers to the extent to which a given assessment tool can accurately anticipate future behaviors or outcomes.
Answer: A
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

42. _____ is the extent to which a measure assesses what it purports, or claims, to measure.
A) Operationalization
B) Reliability
C) Validity
D) Control group
Answer: C
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

43. The central question used to assess the truth of a psychological measure's results is its _____.
A) objectivity
B) readability
C) reliability
Incorrect. Reliability refers to the extent to which performance is consistent.
D) validity
Correct. Validity is the extent to which a measure assesses what it claims to measure.
Answer: D
Diff: 3
Skill: Conceptual
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
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44. Sarula recently completed a compatibility "quiz" from one of her favorite magazines, and although she and her boyfriend have been dating for nearly two years, the "quiz" results suggested they are not compatible. Luckily, Riley, one of Sarula's friends, is a student of psychology and suggested that the "quiz" may not be valid. What is her friend suggesting?
A) The "quiz" only gives you the answers you want.
B) The "quiz" is going to give you similar results every time.
Incorrect. This would be the case of her friend suggested that the quiz was not reliable.
C) The "quiz" is not very scientific.
D) The "quiz" may not measure compatibility truthfully.
Correct. If a measure is not valid, that means that it does not measure what it claims to measure or predict what it claims to predict.
Answer: D
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

45. Jasmine took several different self-administered intelligence tests online yesterday and obtained scores of 124, 128, and 125. She felt great, because the score she received from the psychologist last month at school was only a 95. What characteristic might the online tests be lacking?
A) reliability
Incorrect. In fact, this test has high reliability because it's producing very consistent results.
B) validity
Correct. The tests might lack validity because they don't match a psychologist-administered test (which presumably has been validated). It does seem to be reliable, because the scores are consistent with each other.
C) both reliability and validity
D) The tests appear to have both reliability and validity.
Answer: B
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
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46. The major advantage of self-report measures, like surveys, is that they _____.
A) are inexpensive and easy to administer
Correct. This is, in fact, the cheapest and easiest type of research to conduct.
B) are extremely reliable and valid
Incorrect. Validity is often a problem with self-report measures, because you can't be certain that your respondents are being totally honest.
C) help establish causality
D) are unaffected by the wording or phrasing of the questions
Answer: A
Diff: 1
Skill: Conceptual
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
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47. One difficulty of survey research is that people may not answer questions with complete honesty, and thus may skew the results of the study. If people give different answers to a survey question that is asked on different occasions, this would be a particular problem for the critical thinking concept of _____.
A) correlation vs. causation
Incorrect. There is nothing in the question that speaks to the nature of relationships (causal or otherwise) between variables.
B) replicability
Correct. If people give different answers to survey questions asked at different times, the outcomes of the research would be inconsistent. This would present a problem for replication, as the research will not give the same picture from study to study.
C) extraordinary claims
D) falsifiability
Answer: B
Diff: 2
Skill: Conceptual
APA LO: 2.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
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48. Alex, a freshman in college, wants to know how many of her dormmates have tried marijuana, so she decides to survey everyone on her floor. Despite rumors to the contrary, the results suggest that less than ten percent of her classmates have tried the drug. What is the most likely explanation for her findings?
A) People often distort their answers or fail to tell the complete truth when surveyed.
Correct. One downside of using self-report measures and surveys is that people often distort answers, either for lack of personal insight or because they want to appear more in a more positive light.
B) Her dormmates did not understand the question.
C) Alex did not calculate the findings correctly.
Incorrect. Alex may have calculated the findings correctly, but the findings may not represent the true behaviors of those with whom she spoke.
D) Surveys are not an acceptable means to gather new information.
Answer: A
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

49. A key disadvantage to self-report measures is that _____.
A) demand characteristics can bias participants answers
B) observing behavior leads to changes in behavior
Incorrect. This problem occurs more in experimental research, not in research that uses self-report measures.
C) respondents are not always honest in their answers
Correct. This can be a serious problem with self-report measures.
D) they are less effective than experiments in accurately predicting people's behavior
Answer: C
Diff: 2
Skill: Conceptual
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

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50. While taking a survey on her opinions on abortion rights, Carolyn feels very conflicted. On the one hand, she believes in a woman's right to choose to terminate a pregnancy if she wants to, but at the same time she feels like this is not a particularly popular answer. Most of her friends are very opposed to the idea of having an abortion. To make herself feel like a better person, Carolyn distorts her answers to the survey questions. Instead of being totally honest, she answers in ways that make her feel like a better person. This tendency is called a _____.
A) demand characteristic
Incorrect. A demand characteristic is a cue that participants in a research study may pick up that allows them to figure out the true nature of the researcher's hypotheses.
B) confirmation heuristic
C) response set
Correct. A response set refers to the tendency of research participants to distort their responses to questionnaire items.
D) confounding bias
Answer: C
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

51. A group of students watch a videotape of two managers interacting with their subordinates at a customer service desk in a department store. Students see one of the managers act in a friendly and respectful manner toward all of the employees. The other manager is less friendly but still respectful toward the employees. What concept would explain the more positive ratings on other dimensions for the friendly manager as compared to the less friendly manager?
A) the central tendency error
Incorrect. Central tendency refers to a type of statistics, and does not apply to this example.
B) the halo effect
Correct. The halo effect refers to the tendency of ratings of one positive characteristic to influence the ratings of other positive characteristics.
C) the horns effect
D) the leniency effect
Answer: B
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

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52. Professor Chapman is very friendly with her students, allowing them extra time on assignments and giving them the freedom to come late to class whenever they want. Dr. Weldon, on the other hand, is much stricter in the classroom. She does not accept late assignments, tells students "be on time or don't come to class," and at least two students got no credit on the term paper because they turned it in a day late. Both professors teach with the same quality but are different in their interactions with students. When evaluation time comes, students tend to give Dr. Weldon far lower marks because they dislike her, not because she is a bad teacher. This is an example of the _____ effect.
A) horns
Correct. The horns, or pitchfork, effect occurs involves bad qualities in one area (personality) influencing the rating of bad qualities in another (teaching skill).
B) halo
Incorrect. The halo effect is the tendency of ratings of one positive characteristic to influence the ratings of other positive characteristics.
C) leniency
D) response set
Answer: B
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

53. If you are interested in examining the relationship between the number of class days missed and one's subsequent semester grade point average, you would be best served to use a(n) _____ design to study this question.
A) case study
B) correlational
Correct. Correlational research is used to examine relationships between variables.
C) experimental
Incorrect. Experimental research can investigate the relationship between variables, but if one is not looking to establish a cause and effect relationship, a correlational design is usually easier to employ.
D) naturalistic observation
Answer: B
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills
% correct 84 a = 0 b = 84 c = 11 d = 5 r = .70

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54. Two variables are said to be correlated when scores on one variable _____.
A) are unrelated to the scores on the second variable
B) are related to the scores on the second variable
C) cause the scores on the second variable
D) are different from the scores on the second variable
Answer: B
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

55. Authorities have noted that there is an increased number of teen pregnancies among high schools that offer day care to their students. We can draw which of the following conclusions?
A) The presence of day care is causing students to become sexually active.
B) High schools that provide day care are also offering sexual education.
C) There is a negative correlation between teen pregnancies and day care in the high schools.
Incorrect. Two variables are negatively correlated if, as one increases, the other decreases.
D) There is a positive correlation between teen pregnancies and day care in the high schools.
Correct. Two variables are positively correlated if, as one increases, the other increases.
Answer: D
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

56. Which of these is a type of correlation coefficient?
A) normal
B) parallel
C) skewed
D) negative
Answer: C
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

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57. If there is no discernible relationship between scores on students' homework assignments and their exam scores in an introductory biology class, we would say that a(n) _____ correlation exists.
A) inverse
B) negative
Incorrect. A negative correlation would indicate that there is a relationship between the two variables in question.
C) positive
D) zero
Correct. When there is no relationship between two variables, the correlation is zero.
Answer: D
Diff: 2
Skill: Applied
APA LO: 1.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills
% correct 70 a = 5 b = 11 c = 14 d = 70 r = .46

58. As the average daily temperature in Des Moines, Iowa, *decreases*, the number of persons who are observed wearing sweaters in the workplace *increases*. This is an example of a _____ correlation.
A) causal
B) negative
Correct. A negative correlation occurs when one variable moves in one direction as the other variable moves in the opposite direction.
C) positive
Incorrect. A positive correlation occurs when both variables move in the same direction.
D) zero
Answer: B
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills
% correct 47 a = 11 b = 47 c = 37 d = 3 r = .40
% correct 47 a = 11 b = 47 c = 42 d = 0 r = .35

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59. Hopefully, the amount of time a student spends studying would show a(n) _____ correlation with the student's grades.
A) negative
Incorrect. A negative correlation occurs when the variables move in the opposite direction. In this example this is not the outcome that we would hope to see.
B) spurious
C) positive
Correct. A positive correlation means that as the value of one variable goes up, so does the other; in this instance, one would hope that the more one studies, the higher the grade.
D) illusory
Answer: C
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

60. There is a negative correlation between wearing one's seat belt and the severity of injuries received during an accident. Which statement correctly illustrates this correlation?
A) The more often you wear your seat belt, the more serious the injury you are likely to receive in an accident.
B) The more often you wear your seat belt, the less likely you are to suffer serious injuries in an accident.
Correct. A negative correlation means that as one variable goes up, the other goes down. And remember, correlation is not causation.
C) Wearing your seatbelt prevents you from being injured in an accident.
Incorrect. At first glance this might look like a correct conclusion, and tell you recognize that this conclusion involves a cause and effect statement. Correlation does not imply causation.
D) Failing to wear your seat belt increases the likelihood that you will sustain serious injuries in an accident.
Answer: B
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
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61. Mr. Jones, a sixth-grade science teacher, has tried to predict his students' end-of-the-year grades by looking at their end-of-the-year grades from the previous year. Unfortunately, there does not seem to be any systematic relationship between these two variables. The correlation between these two variables is probably _____.
A) near zero
Correct. When there is no relationship between two variables, the correlation coefficient will be at or near zero.
B) positive
C) negative
Incorrect. A negative correlation would indicate that there is a relationship between the two variables in question.
D) near 1.0
Answer: A
Diff: 1
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

62. A correlation coefficient will always range between _____.
A) 0 and 1
B) –10 and +10.
C) 0 percent and 100 percent.
D) –1.0 and +1.0.
Answer: D
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

63. Which correlation coefficient is most likely to describe the relationship between brushing one's teeth and the number of cavities one gets?
A) –.72
Correct. One would expect that as brushing increases, cavities tend to decrease. Thus, a negative correlation would best describe the relationship. Further, one would expect the relationship to be fairly strong and thus closer to 1.0 than to 0 in absolute value.
B) .93
Incorrect. This correlation coefficient would suggest that as brushing increases, the number of cavities increases. We would hope that the relationship between tooth brushing and the number of cavities one gets would be a strong negative correlation.
C) .08
D) .45
Answer: A
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
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64. Which of the following correlations represents the *weakest* degree of relation between two variables?
A) daily calcium intake and bone mass density, +.11
B) degree of exposure to lead and IQ scores in children, –.12
C) hours of exposure to media violence and aggressive behavior, +.31
D) number of cigarettes smoked per day and incidence of lung cancer, +.39
Answer: A
Diff: 2
Skill: Applied
APA LO: 1.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills
% correct 14 a = 14 b = 80 c = 3 d = 3 r = .45

65. Which of the following correlation coefficients represents the *strongest* degree of relation between two variables?
A) +.19
B) –.25
C) +.43
D) –.47
Answer: D
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

66. The grouping of points on a two-dimensional graph in which each dot represents a single person's data is called a _____.
A) bar graph
B) frequency polygon
C) histogram
D) scatterplot
Answer: D
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
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67. Dr. Schott's scatterplot reveals no real patterns or clusters. In fact, the data seems to fall randomly on the graph. This pattern of results is most likely from which type of correlation?
A) positive
B) zero
Correct. When the correlation coefficient is near zero, the points on a scatterplot will be all over the graph, with no discernable pattern.
C) negative
Incorrect. On a scatterplot, a negative correlation will appear as data points clustered around a line going from upper left to lower right.
D) skewed
Answer: B
Diff: 2
Skill: Applied
APA LO: 1.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

68. Dr. Stanhope is trying to determine which type of correlation is represented on his scatterplot, in which nearly all of his data are clustered along a diagonal line running from higher numbers on the left down to lower numbers on the right. Which type of correlation is represented by this pattern?
A) positive
B) zero
Incorrect. When the correlation coefficient is near zero, the points on a scatterplot will be all over the graph, with no discernable pattern.
C) negative
Correct. On a scatterplot, a negative correlation will appear as data points clustered around a line going from upper left to lower right.
D) We need more information to draw a conclusion.
Answer: C
Diff: 2
Skill: Applied
APA LO: 1.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
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69. For many years, newspapers often mentioned the race of criminal suspects who were NOT white in the article detailing their crimes. This often led people who were not obviously biased or prejudiced to conclude that more non-whites committed crimes than whites. This is one example of _____.
A) the confirmation bias
Incorrect. The confirmation bias occurs when people attend to information that supports their beliefs, but disregard information that contradicts their beliefs.
B) the hindsight bias
C) an illusory correlation
Correct. An illusory correlation exists when there is the appearance of a relationship between two variables that does not truly exist.
D) the representativeness heuristic
Answer: C
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

70. The perception of a statistical association between two variables where none exists is known as _____.
A) confirmation bias
B) illusory correlation
C) existence proof
D) Type I error
Answer: B
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

71. Because he often sees television reports about politicians who have behaved dishonestly and have been prosecuted for ethics violations, Warren tends to believe that *all* politicians are dishonest and untrustworthy. This is an example of a(n) _____.
A) confirmation bias
Incorrect. Confirmation bias occurs when people attend to information that supports their beliefs but disregard information that contradicts their beliefs.
B) illusory correlation
Correct. An illusory correlation exists when there is the appearance of a relationship between two variables that does not truly exist.
C) existence proof
D) Type I error
Answer: B
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

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72. While playing poker with his friends, Matthew scratches his right leg before winning a very big hand. He decides that scratching his right leg will be his "lucky gesture," and for a long time scratches his right leg with every hand that is dealt. This silly superstition violates which rules of critical thinking?
A) correlation vs. causation
Correct. A demonstration of an illusory correlation, which underlies many superstitions, Matthew has failed to recognize that the relationship between a leg scratch and a winning hand is not causal.
B) falsifiability
C) extraordinary claims
D) Occam's Razor
Incorrect. Nothing in this particular question speaks to the rule of parsimony, or Occam's Razor.
Answer: A
Diff: 3
Skill: Applied
APA LO: 2.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

73. When asked if there are more ice cream cones sold in November or July, Mary answers July immediately. She is surprised to find out that there is little to no difference between the two months in terms of ice cream cone sales. Mary's error is most clearly an example of _____.
A) imaginary correlation
Incorrect. The correct term for this incorrect belief in the existence of relationship is the illusory correlation.
B) common sense
C) superstitions
D) illusory correlation
Correct. Illusory correlation occurs when we perceive a relationship between two variables where none actually exists.
Answer: D
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

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74. Six-year-old Scotty comes running in the door and yells triumphantly to his mother, “Today is my lucky day; I found a four-leaf clover!” Many superstitions, like this one, likely began as which of the following?
A) imaginary correlations
B) anecdotal stories
C) coincidences
Incorrect. Coincidental events are often at the heart of the belief in an illusory correlation.
D) illusory correlations
Correct. Illusory correlation *refers to our tendency to perceive a relationship between two events that are not actually related.*
Answer: D
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

75. _____ studies allow us to make predictions about one variable based on the knowledge of another but do not allow us to draw conclusions about cause-and-effect relationships.
A) Case
B) Experimental
C) Natural
D) Correlational
Answer: D
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

76. Correlational research designs are NOT appropriate for purposes of _____.
A) causation
B) description
C) prediction
D) describing relationships
Answer: A
Diff: 3
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

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77. As your textbook discusses, a statistician once discovered that in one of the United States there was a negative correlation between the number of PhDs granted and the number of mules in that state. The fact that you cannot then state that the number of PhDs conferred causes the mule population to decrease demonstrates which principle of critical thinking?
A) correlation vs. causation
Correct. Bear in mind that correlational data only gives information about the strength and direction of a relationship between two variables. It says nothing of the causal direction.
B) extraordinary claims
Incorrect. It is indeed extraordinary to believe that the number of mules in a state would be related to the number of PhDs that are conferred, but this question demonstrates the problem of correlation vs. causation.
C) ruling out rival hypotheses
D) falsifiability
Answer: A
Diff: 3
Skill: Conceptual
APA LO: 2.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills
% correct 74 a = 74 b = 21 c = 0 d = 5 r = .24

78. The only research design that allows one to make cause-and-effect inferences is the _____ design.
A) case study
B) correlational
C) experimental
D) naturalistic observation
Answer: C
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills
% correct 49 a = 19 b = 24 c = 49 d = 8 r = .39

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79. What is the main difference between an experiment and a correlational study?
A) A correlational study involves the manipulation of variables, while an experiment does not.
Incorrect. This is the opposite of the correct answer.
B) An experiment looks at the relationship between independent and dependent variables, while a correlational study looks at the relationship between within-group and between-group variables.
C) A correlational study looks at the relationship between independent and dependent variables, while an experiment looks at the relationship between within-group and between-group variables.
D) An experiment involves the manipulation of variables, while a correlational study does not.
Correct. It is the manipulation of variables along with random assignment that allows an experiment to make cause and effect conclusions, while a correlational study cannot.
Answer: D
Diff: 2
Skill: Conceptual
APA LO: 1.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation; 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills
% correct 44 a = 0 b = 31 c = 25 d = 44 r = .35
% correct 42 a = 5 b = 53 c = 0 d = 42 r = .46

80. A research design characterized by random assignment of participants to conditions and manipulation of an independent variable is called a(n) _____.
A) case study
B) naturalistic observation
C) experiment
D) survey
Answer: C
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

81. A key aspect of an experiment that is missing in other research designs is _____.
A) description of the phenomena of interest
B) explanation of why a relationship exists
C) prediction of the effects of differences in variable on another
D) random assignment of participants to different groups
Answer: D
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

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82. Professor Golder is studying hyperactivity in preschool age children. She is concerned that differences in child rearing, diet, and so forth may affect her results. To minimize these potential preexisting variables, she should be sure to do which of the following?
A) Use random assignment when forming her groups.
Correct. Random assignment "cancels out" the effects of any preexisting differences between groups, allowing study of the variable of interest.
B) Include an independent variable.
C) Include a dependent variable.
D) Assign boys to the experimental group and girls to the control group.
Incorrect. This kind of assignment to participant groups would actually be problematic, because it would create a confounding variable that could make the experiment invalid.
Answer: A
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

83. In an experiment, the _____ group receives no manipulation of an independent variable.
A) control
B) dependent
C) independent
D) experimental
Answer: A
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

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84. A researcher wants to see whether she can make the typical administrative assistant job more motivating at Acme, Inc. To experimentally investigate this possibility, she randomly assigns administrative assistants to one of the following conditions: doing the job as it has always been done, having a computer performance monitoring device installed, receiving feedback about their performance on a weekly basis, or being given a say in how one's workload is structured and done. Which of the preceding conditions is an example of a *control group*?
A) being given a say in how one's workload is structured and done
B) doing the job as it has always been done
Correct. The group that receives no independent variable is the control group. In this case, doing the job as it always has been done would serve as the control.
C) having a computer performance monitoring device installed
Incorrect. This group of participants would represent one of the experimental groups.
D) receiving feedback on a weekly basis
Answer: B
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills
% correct 65 a = 19 b = 65 c = 13 d = 3 r = .37
% correct 79 a = 16 b = 79 c = 5 d = 0 r = .45

85. Ryan, a professional bass fisherman, is trying to determine which lure is most effective on Wakeby Lake: the plastic worm he normally uses or the new minnow-style lure he bought yesterday. Based on this scenario, what would constitute the control?
A) the new minnow lure
Incorrect. Using the new minnow lure would represent the experimental case.
B) the plastic worm
Correct. A control receives no manipulation in an experiment. In this case, normal use of the plastic worm suggests lack of manipulation.
C) neither the minnow lure nor the plastic worm
D) There is no control in this particular experiment.
Answer: B
Diff: 1
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
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86. Dr. Johansen randomly assigned research participants to three different groups during her last experiment. She then proceeded to give all the participants in the experiment a new study technique designed to enhance their learning for the upcoming test. What critical error did she make during her experiment?
A) She failed to identify the independent variable.
B) She failed to identify the dependent variable.
C) She failed to include an experimental group.
Incorrect. Because all of her participants received the independent variable in question, they were all part of an experimental group. The problem with this research is that there is no control group.
D) She failed to include a control group.
Correct. In an experiment, we need to ensure that there is a group that receives the "active" treatment and a group that receives a "placebo" treatment (in this case, a study technique that has already been tested).
Answer: D
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

87. Several years ago, the NBA (National Basketball Association) introduced a new style of basketball to the players. After several months, many players complained that they did not like the "feel" of the new ball. Based on this scenario, what constitutes the control?
A) There is no control condition.
Incorrect. The control condition was the use of the original ball that the players have become accustomed to.
B) the new ball that was introduced
C) the original ball that players were used to
Correct. A control receives no manipulation in an experiment. In this case, the original ball suggests lack of manipulation.
D) Both the new and old balls are part of the control condition.
Answer: C
Diff: 1
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
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88. The group of participants that receives a manipulation of the independent variable in an experimental study is called the _____ group.
A) control
B) dependent
C) experimental
D) independent
Answer: C
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

89. The _____ variable is what the researcher “manipulates,” or varies, in an experimental study.
A) control
B) dependent
C) operational
D) independent
Answer: D
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

90. The variable that an experimenter measures to determine whether or not the manipulation has had an effect is the _____ variable.
A) causal
B) confounding
C) dependent
D) independent
Answer: C
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
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91. An administrator believes that the placement of motivational posters on the walls in classrooms of academic buildings will lead to increased GPAs at his school. To test his theory, he randomly assigns certain classrooms within the College of Liberal Arts and Sciences to have the posters, while others do not. None of the remaining four academic colleges have any posters placed in their classrooms. What is the *independent* variable in this study?
A) academic college
B) classroom wall hangings
Correct. The presence or absence of classroom wall hangings is the manipulated variable, so that is the independent variable.
C) gender of the student
D) grade point average
Incorrect. The grade point average of the students is what is being measured, so that is the dependent variable.
Answer: B
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills
% correct 74 a = 0 b = 74 c = 10 d = 16 r = .47

92. A medical doctor believes that the presence of aromatherapy will reduce the anxiety of first-time mothers-to-be during labor and will increase their reported satisfaction with their care at his hospital. He randomly assigns mothers to give birth in a room either with or without aromatherapy. What is the *independent* variable in this example?
A) anxiety level during labor
B) number of previous birthing experiences
C) presence or absence of aromatherapy
Correct. The room environment is what is being manipulated in the experiment, so that is the independent variable.
D) satisfaction with hospital care
Incorrect. He satisfaction with hospital care is what is being measured, so that is the dependent variable.
Answer: C
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
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93. Professor Todd decides to test her hypothesis that eating chocolate prior to exams increases students' test scores. She randomly assigns students to two groups at the beginning of the semester. One group receives a bar of chocolate before each test, while the other group receives another type of candy. She compares their scores at the end of the year, and finds that the students who ate the chocolate scored an average of ten points higher on their exams. What is the dependent variable in this experiment?
A) students' test scores
Correct. These students' test scores are what is being measured, so that is the dependent variable.
B) chocolate bars
Incorrect. The presence or absence of a chocolate bar is what is being manipulated in the experiment, so that is the independent variable.
C) the students themselves
D) the professor
Answer: A
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills
% correct 50 a = 50 b = 42 c = 5 d = 3 r = .62
% correct 79 a = 79 b = 16 c = 0 d = 5 r = .47

94. Coach Ezell wants her players to relax before playing important conference games. At the halfway point in the season, instead of the dance music she normally had playing in the locker room, she switches to classical music before the games. What is the dependent variable in this scenario?
A) the new classical music
Incorrect. The type of music that is being played is what is being manipulated in the experiment, so that is the independent variable.
B) the players' anxiety level
Correct. The players' anxiety level is what is being measured, so that is the dependent variable.
C) the coach
D) the original dance music
Answer: B
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
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95. Professor Todd decides to test her hypothesis that eating chocolate prior to exams increases students' test scores. She randomly assigns students to two groups at the beginning of the semester. One group receives a bar of chocolate before each test, while the other group receives another type of candy. She compares their scores at the end of the year, and finds that the students who ate the chocolate scored an average of ten points higher on their exams. What is a fair conclusion that can be drawn from this experiment?
A) Eating chocolate causes students' test scores to increase.
Correct. An experiment with random assignment to groups allows us to determine cause and effect.
B) Eating chocolate has no relationship to students' test scores.
C) Eating chocolate may increase students' satisfaction with the class.
D) Eating chocolate makes students happy.
Incorrect. These students may feel happy as a result of doing better on their exams, but that is not a relationship measured in this experiment. This experiment also does not look at the relationship between eating chocolate and student happiness.
Answer: A
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

96. When conducting an experiment, it is of crucial importance that the operational definitions of what is being measured are clearly stated and easily identified. This allows for other researchers to try to repeat the research to verify the findings. To which principle of critical thinking is this factor most relevant?
A) Occam's Razor
B) replicability
Correct. If research is to be repeated (or replicated), then the operational definitions from one study to the next must be consistent and clear.
C) extraordinary claims
Incorrect. There is nothing in this question that speaks to the need for extraordinary claims to be supported by similarly impactful evidence.
D) correlation vs. causation
Answer: B
Diff: 3
Skill: Conceptual
APA LO: 2.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
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97. A(n) _____ definition in an experiment refers to a working description of what the researcher is measuring or observing in the study.
A) control
B) dependent
C) operational
D) independent
Answer: C
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

98. In an experiment, a researcher wants to avoid the presence of _____.
A) confounding variables
B) dependent variables
C) independent variables
D) a random assignment
Answer: A
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

99. When acting as a participant in a research study examining the relationship between alcohol consumption and driving ability, Layla was assigned to the experimental group that received the highest amount of alcohol to drink. Despite this ingestion of liquor, Layla was still able to navigate the driver's course perfectly. The experimenter did not consider the fact that Layla had been a drinker for many years, and had developed a high alcohol tolerance. This factor, which impacted the dependent variable in the study, would be called a(n) _____ variable.
A) external
B) dependent
C) independent
D) confounding
Answer: D
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
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100. Other than the independent variable, the _____ variable may also differ between experimental and control groups.
A) confounding
B) dependent
C) false
D) placebo
Answer: A
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
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101. Why is it important to make sure that different participant groups are roughly equivalent in terms of personal characteristics (e.g., age, gender) before any independent variable is introduced?
A) because it is important to treat all research participants equally so that they feel that they are not being manipulated
Incorrect. This is a correct statement, but it does not answer the question of why we want participant groups to be equivalent before an independent variable is introduced.
B) because research ethics forbid any experiment to take place when the participant groups are fundamentally different from each other
C) so that no major differences between the groups bias the results of the experiment
Correct. When the groups are different before the research begins, any changes in the dependent variable might be caused by those differences (which are called confounding variables).
D) because it threatens the integrity of a within-group experimental design
Answer: C
Diff: 3
Skill: Conceptual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

102. One difficulty in conducting medical research is that participants often assume that any treatment will be effective in alleviating their symptoms. Therefore, a researcher has to design an experiment that measures the influence of _____.
A) random selection
B) medical confounds
C) the Rosenthal effect
Incorrect. The Rosenthal effect refers to experimenter expectancy effects. That is not seen in this example.
D) the placebo effect
Correct. The placebo effect occurs when a participant's expectations cause him or her to experience certain effects.
Answer: D
Diff: 2
Skill: Conceptual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
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103. People report feeling better after taking medication even though it hasn't had time to be effective. They are experiencing _____.
A) the experimenter bias effect
B) low reliability
C) the placebo effect
D) confirmation bias
Answer: C
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

104. Dr. Wilkins randomly assigns subjects to one of three groups. He is interested in the effects of caffeine on anxiety levels. He gives subjects in the first group an extra two cups of coffee a day for six months. The second group receives an extra two cups of decaffeinated coffee a day for the same time period, while the control group is not given either regular or decaffeinated coffee. By providing one group with decaffeinated coffee, Dr. Wilkins is trying to account for which potential element of the experiment?
A) a control condition
B) the Rosenthal effect
Incorrect. The Rosenthal effect refers to experimenter expectancy effects. That is not seen in this example.
C) the placebo effect
Correct. The placebo effect occurs when an inert treatment "works." In this case, it would occur if the decaf coffee increased anxiety (it should have no effect on anxiety).
D) the artificial condition
Answer: C
Diff: 3
Skill: Applied
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
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% correct 88 a = 8 b = 1 c = 88 d = 1 r = .37

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105. Lisa, a college student, had a great time at the party last night. She danced, sang karaoke, and even played the “rock band” video game—all behaviors that she had never exhibited in public before. She had been drinking the “punch” all night long, which she was told contained high levels of alcohol. Lisa was quite surprised to find out the next morning that the punch did NOT contain any alcohol. What concept may explain Lisa’s behavior?
A) the Rosenthal effect
B) illusory correlations
C) the nocebo effect
Incorrect. The nocebo effect is harm resulting from the mere expectation of harm.
D) the placebo effect
Correct. The placebo effect occurs when an inert treatment “works.” In this case, it would occur if the nonalcoholic punch produced more gregarious behavior.
Answer: D
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

106. The best way to avoid the placebo effect in research is to _____.
A) keep the participants “blind” as to which participant group they are in
B) use adequate debriefing before the research is conducted
C) wait until after the research is complete before garnering informed consent
D) using better methods of deception (consistent with research ethics) in the experiment
Answer: A
Diff: 2
Skill: Conceptual
APA LO: 2.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
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107. When someone experiences harm based solely on the expectation that they will experience harm, this is called the _____ effect.
A) Zaigarnik
B) nocebo
C) Barnum
D) placebo
Answer: B
Diff: 2
Skill: Factual
APA LO: 1.4b
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

108. Matthew believes that the bath water his daddy has run for him is too hot and is going to burn him. Even though the water is only slightly above warm, the minute Matthew sticks his foot in the water, he pulls it out, cries, and says that the water burned him. Matthew's perception of being in pain is due to the _____ effect.
A) Zaigarnik
B) nocebo
Correct. The nocebo effect is harm resulting from the mere expectation of harm.
C) Barnum
D) placebo
Incorrect. The placebo effect occurs when an inert treatment "works."
Answer: B
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

109. The _____ is a phenomenon in which researchers' hypotheses lead them to unintentionally bias the outcome of a study.
A) durability bias
B) experimenter expectancy effect
C) availability heuristic
D) confounding error
Answer: B
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
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110. The experimenter expectancy effect is also called the _____ effect.
A) Rosenthal
Correct. These terms both refer to a type of bias that occurs when a researcher anticipates certain outcomes and then lets those expectations impact his or her results.
B) McGuirk
C) Flynn
Incorrect. The Flynn effect refers to an increase in the IQ scores of a population over generations.
D) Werth
Answer: A
Diff: 3
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

111. Dr. Francis is conducting a study in which she is examining the impact of a new math tutoring program on elementary school students' performance in a math class. She has hypothesized that the tutoring will significantly increase the performance of students who are enrolled in this program. She has to remember not to let her expectation of an outcome influence her interpretation of the final data. In other words, she needs to defend against the _____ effect.
A) Flynn
Incorrect. The Flynn effect, which is not discussed in this chapter, refers to a tendency for a population's IQ scores to gradually increase over time.
B) nocebo
C) Rosenthal
Correct. The Rosenthal effect, which is another name for experimenter expectancy effect, occurs when a researcher's hypotheses lead them to unintentionally bias the study's outcomes.
D) Rogers
Answer: C
Diff: 3
Skill: Applied
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
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112. An experiment would be described as _____ when neither researchers nor participants are aware of who is in the experimental or control group.
A) blind
B) unfalsifiable
C) a placebo
D) double-blind
Answer: D
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

113. How does conducting a double-blind study attempt to remedy the experimenter expectancy effect?
A) The experimenter does not know, but the participant does know, what condition the participant is assigned to.
Incorrect. This would be an example of a single blind study. In a double-blind study, neither the experimenter nor the participant knows which condition the participant has been assigned to.
B) The experimenter and the participant both know what condition the participant is assigned to.
C) The experimenter knows, but the participant does not know, what condition the participant is assigned to.
D) Neither the experimenter nor the participant knows what condition the participant is assigned to.
Correct. When neither the experimenter nor the participant knows what condition has been assigned, it eliminates the possibility of the placebo and experimenter effects.
Answer: D
Diff: 2
Skill: Conceptual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
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114. In the case of Clever Hans, a teacher named Wilhelm von Oster claimed that he had taught his horse arithmetic, including square roots. As it turns out, the horse was merely responding to subtle, unintentional physical signals being given by von Oster. This demonstrates which principle of critical thinking?
A) extraordinary claims
Correct. It is certainly extraordinary to think that a horse can be taught to do higher math problems, but in this case, the evidence of the validity of the claims was not so extraordinary.
B) correlation vs. causation
C) replicability
D) Occam's Razor
Incorrect. The simplest explanation for the case of Clever Hans is that he was being unintentionally fed the correct answers, but the best answer to this case is extraordinary claims.
Answer: A
Diff: 2
Skill: Conceptual
APA LO: 2.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

115. Marissa just finished completing her new employee questionnaire form for a job in sales. Despite being a rather shy, introverted person, Marissa checked all the areas that referred to her as a talkative and outgoing individual. She believes those extraverted characteristics are exactly what her new employer is looking for. Which concept is being illustrated?
A) participant bias
B) the primacy effect
C) demand characteristics
Correct. Demand characteristics are cues that participants pick up that allow them to guess about the researcher's hypothesis. In this case, Marissa could guess that the employer was looking for extraverted candidates.
D) the Rosenthal effect
Incorrect. The Rosenthal effect refers to experimenter expectancy effects. That is not seen in this example.
Answer: C
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
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116. Eila is participating in a psychological experiment for one of the graduate students at her university. She is pretty confident that she knows the true intent of the study and is trying to answer the questions accordingly. Eila is engaging in _____, a common pitfall in experiments.
A) intentionality
B) the Rosenthal effect
Incorrect. The Rosenthal effect refers to experimenter expectancy effects. That is not seen in this example.
C) observer bias
D) demand characteristics
Correct. Demand characteristics are cues that participants pick up that allow them to guess about the researcher's hypothesis.
Answer: D
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

117. In one of the most shameful violations of research ethics to date, nearly 400 African American men from _____ were not informed that they had been diagnosed with syphilis and were not provided with available, effective treatments for this illness.
A) Tuskegee
B) Baton Rouge
C) Biloxi
D) Montgomery
Answer: A
Diff: 1
Skill: Factual
APA LO: 3.1
TEXT LO: 2.3a Explain the ethical obligations of researchers toward their research participants.
Topic: Ethical Issues in Research Design

118. Which ethical requirement of research was not present in the Tuskegee experiment, in which nearly 400 African American men were not told they had syphilis and were denied treatment for its symptoms?
A) anonymity
B) confidentiality
C) informed consent
D) debriefing
Answer: C
Diff: 1
Skill: Applied
APA LO: 3.1
TEXT LO: 2.3a Explain the ethical obligations of researchers toward their research participants.
Topic: Ethical Issues in Research Design

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119. What is the primary purpose of an institutional review board?
A) to help protect research participants from abuse
B) to hinder the research process by placing unnecessary hurdles in the way of researchers
C) to help protect the university from lawsuits from unhappy research participants
D) to encourage the use of deception in medical and psychological research with humans
Answer: A
Diff: 3
Skill: Factual
APA LO: 3.1
TEXT LO: 2.3a Explain the ethical obligations of researchers toward their research participants.
Topic: Ethical Issues in Research Design

120. Students of psychology are often frustrated because there are very few, if any, clear-cut answers to many of their questions. What is the primary limiting factor in obtaining first-hand knowledge of questions such as the long-term effects of child abuse or the effects of smoking marijuana on a pregnancy?
A) Most people in the general public are not concerned with these issues.
B) It is difficult to find people who are victims of abuse or mothers who smoke marijuana during pregnancy.
C) Ethical guidelines in research prevent psychologists from carrying out many of these studies.
Correct. Due to ethical considerations, we cannot randomly assign children to abusive or nonabusive homes, for example. Thus, it is impossible to say whether A causes B, in many cases.
D) Institutional review boards encourage participation in studies that may be harmful to participants either mentally or physically.
Incorrect. Nothing could be further from the truth. Institutional review boards exist to prevent unnecessary harm or discomfort to research participants.
Answer: C
Diff: 1
Skill: Conceptual
APA LO: 3.1
TEXT LO: 2.3a Explain the ethical obligations of researchers toward their research participants.
Topic: Ethical Issues in Research Design

121. If Dr. Shioux wants to conduct research that will involve human participants at his university, he will have to submit a summary of the study to a(n) _____ before he can actually proceed. This will act as a form of protection for the participants he intends to enroll in his research.
A) subjects rights committee (SRC)
B) institutional review board (IRB)
Correct. An IRB exists to protect human participants from potentially abusive research protocols.
C) human resources investigation panel (HRIP)
Incorrect. Human resources is usually a department involved in assisting and interacting with faculty members at a company or business. It is not involved in research protocol examination.
D) ethics assurance board (EAB)
Answer: B
Diff: 1
Skill: Applied
APA LO: 3.1
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122. Which of these is part of the APA ethical principles for human research?
A) Research participants must give informed consent.
B) Research participants must be deceived so that they do not know the true nature of the research to which they are contributing.
C) Research participants must be paid for their contribution.
D) As long as informed consent has been given, research participants may be subjected to any level of physical or psychological pain or discomfort.
Answer: A
Diff: 1
Skill: Factual
APA LO: 3.1
TEXT LO: 2.3a Explain the ethical obligations of researchers toward their research participants.
Topic: Ethical Issues in Research Design
% correct 91 a = 91 b = 0 c = 0 d = 9 r = .44

123. In examining the research of Stanley Milgram, who explored factors related to obedience in research participants, which of the following areas of ethics seems to be the most salient issue in determining if his research was or was not a violation of reasonable ethical standards?
A) the right to withdraw from research
B) pain and suffering in non-human participants
C) debriefing
Incorrect. Milgram's research protocol involved a thorough debriefing to participants after the research session was completed.
D) informed consent
Correct. Some have suggested that because he did not adequately inform participants what they were "getting into," that his research failed in its obligation to obtain true informed consent.
Answer: D
Diff: 3
Skill: Applied
APA LO: 3.1
TEXT LO: 2.3a Explain the ethical obligations of researchers toward their research participants.
Topic: Ethical Issues in Research Design

124. Dr. Williams believes that by administering brief electric shocks to his students, he can improve their attention to his lectures. He blames daydreaming and inattention by his students for their poor performance in his class. His colleagues are not convinced that the potential benefits to the students will outweigh the physical pain they may endure. Ultimately, what will Dr. Williams have to obtain from his students before proceeding?
A) medical records
B) a debriefing of the results of the study
Incorrect. Debriefings come after a participants contribution to a study has been completed. In this case, informed consent must be obtained before the participants contribute to the study.
C) information about the students' parents
D) informed consent
Correct. Informed consent is a process that helps research participants know what they are getting into, and is necessary for conducting an ethically sound study.
Answer: D
Diff: 2
Skill: Applied
APA LO: 3.1
TEXT LO: 2.3a Explain the ethical obligations of researchers toward their research participants.
Topic: Ethical Issues in Research Design

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125. Professor Wagner is explaining to his subjects the purpose behind the experiment they just participated in, along with a general description of the results. He needs to do this because the research involved some deception of the participants so that they would not be influenced by knowing the true purpose of the study. He is engaging in what aspect of a research study?
A) debriefing
Correct. Debriefing is a process that allows the researcher to fully disclose the nature of the study and provide more information. It occurs once an individual's participation is complete.
B) informed consent
Incorrect. Informed consent is a process that helps research participants know what they are getting into, and is necessary for conducting an ethically sound study. It must be garnered before a participant contributes to a study.
C) ethical considerations
D) ethical consent
Answer: A
Diff: 1
Skill: Applied
APA LO: 3.1
TEXT LO: 2.3a Explain the ethical obligations of researchers toward their research participants.
Topic: Ethical Issues in Research Design

126. An overwhelming number of research studies that examine non-human participants involve the use of _____.
A) monkeys and chimpanzees
B) fish and insects
C) rodents and birds
D) dogs and cats
Answer: C
Diff: 1
Skill: Factual
APA LO: 3.1
TEXT LO: 2.3b Describe both sides of the debate on the use of animals as research subjects.
Topic: Ethical Issues in Research Design

127. Dr. Nolen wants to know the effects of removing portions of one's hippocampus on long-term memory, in the hopes of one day finding a cure for patients with Alzheimer's disease. The subjects for his study are most likely to be _____.
A) humans
Incorrect. Although it would probably be most useful for the treatment of Alzheimer's disease to conduct this research on human beings, there is no ethical way this could be occur.
B) nonhuman animals
Correct. Some research cannot ethically be conducted on humans, so nonhuman animals (most often mice or rats) are used instead.
C) robots
D) insects
Answer: B
Diff: 1
Skill: Applied
APA LO: 3.1TEXT LO: 2.3b Describe both sides of the debate on the use of animals as research subjects.
Topic: Ethical Issues in Research Design

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128. What is the authors' position on the use of animal research in psychology?
A) Animal research provides important insights but also comes with costs in terms of death and suffering of these subjects.
Correct. This is a correct statement of the authors' position on the use of animal research.
B) All animal research must be ended as soon as is possible.
Incorrect. Many people feel this way, but this is not the position taken by the authors.
C) It is more desirable to harm animals than to harm humans in the research process.
D) Results from animal research cannot inform us of how the same phenomenon occur with humans.
Answer: A
Diff: 2
Skill: Conceptual
APA LO: 3.1
TEXT LO: 2.3b Describe both sides of the debate on the use of animals as research subjects.
Topic: Ethical Issues in Research Design

129. The application of mathematics to describe and analyze data is known as _____.
A) dispersion
B) data reduction
C) statistics
D) psychometrics
Answer: C
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

130. Numerical characterizations that describe data are known as _____.
A) central tendencies
B) inferential statistics
C) dispersion
D) descriptive statistics
Answer: D
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

131. Which of the following is one of the two types of statistics that researchers use to analyze the data that they collect?
A) predictive statistics
B) conscriptive statistics
C) descriptive statistics
D) computational statistics
Answer: C
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

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132. Which of the following is a measure of central tendency?
A) mode
B) variability
C) range
D) standard deviation
Answer: A
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

133. Which of the following words is probably the best synonym for the mean of a data set?
A) popular
B) middle
C) spread
Incorrect. The spread of a set of data points would be indicated by the range, not the mean.
D) average
Correct. The mean is a measure of central tendency that refers to the average of a set of data points.
Answer: D
Diff: 2
Skill: Conceptual
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

134. A university president asks her psychology department chair if the university has more male or more female undergraduate psychology majors. What measure of central tendency is she asking about?
A) mean
Incorrect. The mean refers to the average of a data set.
B) median
C) mode
Correct. The mode is a measure of central tendency that refers to the most frequently appearing value in a data set.
D) range
Answer: C
Diff: 1
Skill: Applied
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

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135. On Friday Dr. Utts's history class took their first exam. On Monday, the students asked, "What was the most common grade on the exam, A, B, C, D, or F?" The students in Dr. Utts's class were asking about the _____ of the set of scores on the exam.
A) mean
Incorrect. The mean is the average of a data set.
B) mode
Correct. The mode is a measure of central tendency that refers to the most frequently appearing value in a data set.
C) median
D) range
Answer: B
Diff: 2
Skill: Applied
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

136. A British literature instructor examines the number of class periods his students have missed by mid-terms and has the following data: 1, 0, 10, 0, 2, 1, 0, 0, 5, 2, 3, 0, 0, 0, 1, 1, 2, 3, 1, 2. What is the median for this data set?
A) 0
B) 1
Correct. Fifty percent of the data points occur below and above 1, so it is the median.
C) 1.7
Incorrect. 1.7 is the average of this data set, so it is the mean.
D) 2.5
Answer: B
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

137. In which situation would presenting the mean as one's measure of central tendency be *least* accurate?
A) when the distribution is normally distributed
B) when the distribution is negatively skewed
Correct. The mean is adversely affected by positively or negatively skewed data sets.
C) when the distribution is bimodal
Incorrect. A bimodal data set does not necessarily impact the meaning of that data set.
D) when there are many scores in the data set
Answer: B
Diff: 3
Skill: Conceptual
APA LO: 1.3
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

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138. If I wanted to determine, on average, how far apart any one score is from another, I should use a measure of _____.
A) central tendency
B) correlation
C) variability
D) statistical significance
Answer: C
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

139. This simplest measure of variability is the _____.
A) mean
B) mode
C) range
D) standard deviation
Answer: C
Diff: 1
Skill: Conceptual
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

140. Which descriptive statistic is *least* likely to be influenced by the presence of skewed data?
A) mean
B) median
C) range
D) standard deviation
Answer: B
Diff: 3
Skill: Factual
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

141. Which of the following is one of the two types of statistics that researchers use to analyze the data that they collect?
A) referential statistics
B) inferential statistics
C) binomial statistics
D) cyclical statistics
Answer: B
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

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142. In a data set, the measure of variability that indicates how far each individual data point is from the average of the entire set is called the _____.
A) standard deviation
B) canonical correlation
C) regression from the mean
D) variance
Answer: A
Diff: 3
Skill: Factual
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

143. Mathematical methods that allow us to determine whether we can generalize findings from our sample to the full population are called _____.
A) central tendencies
B) inferential statistics
C) dispersion
D) descriptive statistics
Answer: B
Diff: 3
Skill: Factual
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

144. A researcher wishes to generalize his findings beyond the people at the organization he is studying in Florida. He wants to attempt to show that the findings apply to all people who work in a similar type of organization throughout the United States. He should use _____ to analyze his data.
A) correlational statistics
B) descriptive statistics
Incorrect. Descriptive statistics are used to describe a data set, not to generalize from a sample to a larger population.
C) inferential statistics
Correct. Inferential statistics are used to generalize findings from a sample to the larger population from which it was drawn.
D) logical statistics
Answer: C
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

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145. Mary conducts research examining the efficacy of treatment of elderly persons in nursing facilities in her home state. In order for her to use this research to influence larger political policies regarding the care of the elderly on a state and federal level, she will have to generalize her findings to the larger population of elderly nursing home residents. What sort of statistics should she use to accomplish this goal?
A) correlational statistics
B) descriptive statistics
Incorrect. Descriptive statistics are used to describe a data set, not to generalize from a sample to a larger population.
C) inferential statistics
Correct. Inferential statistics are used to generalize from a sample to the larger population from which it was drawn.
D) logical statistics
Answer: C
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.4b Explain how inferential statistics can help us to determine whether we can generalize from our sample to the full population.
Topic: Statistics: The Language of Psychological Research

146. When a given research finding is believed to have less than a _____ in 100 probability of occurring by chance, it is usually described as being statistically significant.
A) 1
B) 5
C) 10
D) 25
Answer: B
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.4b Explain how inferential statistics can help us to determine whether we can generalize from our sample to the full population.
Topic: Statistics: The Language of Psychological Research

147. The term *statistical significance* implies that the results are _____.
A) important
B) extremely meaningful
C) valid
D) not likely due to chance
Answer: D
Diff: 3
Skill: Factual
APA LO: 1.1
TEXT LO: 2.4b Explain how inferential statistics can help us to determine whether we can generalize from our sample to the full population.
Topic: Statistics: The Language of Psychological Research
% correct 63 a = 6 b = 7 c = 23 d = 63 r = .32

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148. What is the relationship between the *p*-value of a study and its statistical significance?
A) The higher the *p*-value, the greater the statistical significance.
Incorrect. This is the opposite of the correct answer. The higher the p-value, the lower the statistical significance.
B) The *p*-value is unrelated to the level of statistical significance.
C) The *p*-value is equal to the statistical significance.
D) The lower the *p*-value, the greater the statistical significance.
Correct. As p, or probability, drops, there is a greater chance that the findings are a real event and not caused by random chance or happenstance.
Answer: D
Diff: 3
Skill: Conceptual
APA LO: 1.1
TEXT LO: 2.4b Explain how inferential statistics can help us to determine whether we can generalize from our sample to the full population.
Topic: Statistics: The Language of Psychological Research

149. A therapist wishes to show that his new therapy is a marked improvement over the current best available therapy. To do so, he examines the number of participants who improved with each. A total of 125 participants received his treatment (and 100 of them improved). A total of 80 participants received the alternative treatment (and 64 of them improved). What should the therapist conclude?
A) His treatment is superior to the alternative because 100 is greater than 64.
B) His treatment is no better than the alternative because the percentages are the same.
Correct. He has found the same probability in both cases, so there is no statistical difference between the two participant groups.
C) His treatment is inferior because the percentages are the same.
Incorrect. His treatment is neither inferior nor superior. His findings suggest that his treatment is equivalent.
D) His treatment is superior because it included 125 people as opposed to 80.
Answer: B
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.4b Explain how inferential statistics can help us to determine whether we can generalize from our sample to the full population.
Topic: Statistics: The Language of Psychological Research

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150. After carefully observing thousands of students, Dr. O'Brien revealed to his colleagues that students with brown eyes are statistically more likely to write with pens instead of pencils. Although his colleagues did not question his statistics, they did suggest that a finding such as this lacked _____.
A) authenticity
B) standardization
Incorrect. There is nothing in this example that suggests a lack of standardization. The practical significance of his findings is rather small.
C) statistical measures
D) practical significance
Correct. Practical significance refers to whether a statistical difference "makes a difference" in the real world.
Answer: D
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.4b Explain how inferential statistics can help us to determine whether we can generalize from our sample to the full population.
Topic: Statistics: The Language of Psychological Research

151. A mechanism by which experts in a field carefully screen the work of their colleagues is known as _____.
A) experimental validity
B) experimenter bias effect
C) peer review
D) peer assessment
Answer: C
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.5a Identify flaws in research designs and how to correct them.
Topic: Evaluating Psychological Research

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152. The peer review process is designed to _____.
A) block alternative therapies from being made available to the general public
B) identify flaws in a research study's methods, findings, and conclusions
C) make researchers feel bad when their article is not published
D) place obstacles in front of people whose theories differ from mainstream science
Answer: B
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.5a Identify flaws in research designs and how to correct them.
Topic: Evaluating Psychological Research

153. In one research project, a scientist gave students subliminal cassette tapes and told them to play them for 2 months. After 2 months, she assessed whether the tapes helped the self-esteem of her participants and found that self-esteem had indeed risen! While she may have attributed this to the tapes, it is also possible that those students may have found college life to be manageable and thus experienced an increase in self-esteem for that reason. This demonstrates which principle of critical thinking?
A) correlation vs. causation
B) extraordinary claims
C) ruling out rival hypotheses
Correct. In this case, there are alterative explanations that must be considered before assuming that a research finding is accurate.
D) replicability
Incorrect. Nothing in this example addresses repeating the research with the goal of producing the same findings.
Answer: C
Diff: 3
Skill: Applied
APA LO: 2.1
TEXT LO: 2.5b Identify skills for evaluating psychological claims in the popular media.
Topic: Evaluating Psychological Research
% correct 59 a = 38 b = 0 c = 59 d = 3 r = .46

154. The general public is often misled by discussions of research in the media, because most reporters are _____.
A) not fair and balanced in their reporting of the facts
B) actively working to bias the public against scientific research
C) not trained in understanding research or how to accurately communicate about it
D) lazy and attempting to do as little as possible in their jobs
Answer: C
Diff: 1
Skill: Conceptual
APA LO: 1.3
TEXT LO: 2.5b Identify skills for evaluating psychological claims in the popular media.
Topic: Evaluating Psychological Research

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155. Professor Bowden is in the middle of her lecture on marital satisfaction when a student in the back interrupts her and says, “Dr. Phil doesn’t agree with that theory!” Soon other students chime in to add fuel to the discussion. Professor Bowden just smiles and asks the original student to produce the research that Dr. Phil carried out to justify his statements. What lesson is Professor Bowden trying to teach?
A) Information from the media is always inaccurate.
B) One should never question a well-established theory.
Incorrect. It is one of the most important aspects of critical thinking that the theories should be questioned, whether they are or are not well-established.
C) Always check the source of your information before you believe it.
Correct. The authors discuss how we should be skeptical of psychology-related claims in the media, and look for scientific evidence.
D) Secondary sources are just as reliable as primary sources.
Answer: C
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.5b Identify skills for evaluating psychological claims in the popular media.
Topic: Evaluating Psychological Research

156. A key factor to consider when reading about the results of a study on the Internet, in a newspaper, or in a news magazine is to
A) consider the source of the information.
Correct. One must always consider the source from which information is drawn.
B) determine how well it fits with what others have told you in the past.
C) rely on your common sense or “gut” intuition.
D) popular media outlets always have inaccurate information.
Incorrect. It is entirely possible that the results of the study reported on the Internet, a newspaper, or in a newsmagazine are accurate. One must simply not accept that to be the case just because it is published.
Answer: A
Diff: 1
Skill: Conceptual
APA LO: 1.3
TEXT LO: 2.5b Identify skills for evaluating psychological claims in the popular media.
Topic: Evaluating Psychological Research
% correct 88 a = 88 b = 12 c = 0 d = 0 r = .34

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157. A major limitation in reading about the results of psychological research in the newspaper is that _____.
A) reporters provide too much detailed information about the research study that the general public cannot comprehend in their articles
B) reporters are so well-trained to discuss research that they cannot easily communicate about it with the average lay person
C) reporters create controversy where none exists by treating scientific evidence and dissenter's biased opinions as equally compelling
Correct. This is an important point to make, because those without basis for opinions are often given the same weight as those who do have scientific basis for opinions.
D) reporters do not know how to identify experts to interview for many of their stories and end up unintentionally misleading the public
Incorrect. Reporters may very well know how to interview people for their stories, but may choose to do so in such a way that makes the stories more sensational.
Answer: C
Diff: 2
Skill: Conceptual
APA LO: 1.3
TEXT LO: 2.5b Identify skills for evaluating psychological claims in the popular media.
Topic: Evaluating Psychological Research

Fill-in-the-Blank

1. _____ communication is a process that involves one person sitting next to a child with autism spectrum disorder for the purpose of helping that child type out words and sentences. Research has demonstrated that it was an invalid way of assisting these children with communication deficits.
Answer: Facilitated
Diff: 2
Skill: Factual
APA LO: 1.3
TEXT LO: Introduction
Topic: Introduction

2. A(n) _____ refers to a mental shortcut or rule of thumb that assists people with intuitive decision-making problems.
Answer: heuristic
Diff: 3
Skill: Factual
APA LO: 1.1
TEXT LO: 2.1a Identity two modes of thinking and their application to scientific reasoning.
Topic: The Beauty and Necessity of Good Research Design

3. If a researcher investigated the topic of aggression by simply recording instances of aggression on a school playground, in a place of business, in a nightclub, and in many other everyday settings, he or she would be using the research design of _____.
Answer: naturalistic observation
Diff: 1
Skill: Applied
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

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4. _____ is the most important part of ensuring the generalizability of one's results to the general population.
Answer: Random selection
Diff: 3
Skill: Conceptual
APA LO: 2.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

5. Dr. Barrios is examining the relationship between student scores on a practice test in his senior-level class with their actual performance, with different questions, on his first exam. If there is consistency or stability in these scores, Dr. Barrios would be able to say that _____ exists.
Answer: reliability
Diff: 2
Skill: Applied
APA LO: 1.1
TEXT LO: 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Topic: Scientific Methodology: A Toolbox of Skills

6. An important concern in research is that people will respond in a manner that conveys a specific impression rather than in a way that reflects his or her true behavior. If a person does this to make themselves appear more skilled than they really are, he or she is engaging in a(n) _____.
Answer: response set
Diff: 3
Skill: Conceptual
APA LO: 2.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

7. _____ is the degree of statistical association between two variables.
Answer: Correlation (Correlation coefficient is also correct.)
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

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8. The major advantage of a correlational design over a naturalistic observation or a case study design is that a correlational design allows us to _____.
Answer: make predictions (or make predictions about future events or describe and make predictions about behavior)
Diff: 2
Skill: Conceptual
APA LO: 1.3
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

9. When one variable under investigation rises while the second variable under investigation drops, a(n) _____ correlation would be the result.
Answer: negative
Diff: 1
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

10. According to the authors, many superstitious behaviors result from _____.
Answer: illusory correlation
Diff: 3
Skill: Conceptual
APA LO: 1.3
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

11. It is only possible to draw cause-and-effect conclusions about research data when employing a(n) _____ design.
Answer: experimental
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

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12. When a researcher provides a specific definition of the independent and dependent variables for the purpose of a study, they are creating _____ definitions for the research.
Answer: operational
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

13. When a _____ variable exists, the ability to state that differences in the conditions of the independent variable led to the observed differences in the dependent variable is lessened.
Answer: confounding
Diff: 3
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

14. The two major features of an experiment—random assignment and manipulations of an independent variable—permit the researcher to infer _____ and _____ relationships between variables.
Answer: cause, effect
Diff: 3
Skill: Conceptual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

15. Although, physiologically speaking, it should take approximately 30 minutes for an aspirin to relieve a headache, most people claim to feel better only minutes after taking the pill. This observation can best be explained by the _____ effect.
Answer: placebo
Diff: 1
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

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16. One important limitation of the experimental design is that when research participants know what condition they have been assigned to, this knowledge, rather than the independent variable, may be the cause of the differences observed in the dependent variable. This is known as the _____ effect.
Answer: placebo (nocebo is also correct)
Diff: 2
Skill: Conceptual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

17. When neither the experimenter nor the participant have any knowledge of the experimental condition to which the participant has been assigned, we say that this is a _____ study.
Answer: double-blind
Diff: 2
Skill: Factual
APA LO: 1.1
TEXT LO: 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

18. In psychological research studies, the researcher is required to obtain the participant's _____.
Answer: informed consent
Diff: 1
Skill: Factual
APA LO: 3.1
TEXT LO: 2.3a Explain the ethical obligations of researchers toward their research participants.
Topic: Ethical Issues in Research Design

19. Dr. Friesz asks his research assistant to gather information on how his data are clustering together on the variable, average daily temperature for December. He is asking for a measure of _____.
Answer: central tendency
Diff: 2
Skill: Applied
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

20. If a statistician asks you, his assistant, to calculate the middle score from a data set, he is asking you to determine the value of the _____.
Answer: median
Diff: 1
Skill: Applied
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

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21. The preferred measure of variability in descriptive statistics is the _____.
Answer: standard deviation
Diff: 2
Skill: Conceptual
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

22. The goal of inferential statistics is to _____ our results to the full population.
Answer: generalize (apply is also correct)
Diff: 3
Skill: Factual
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

23. Before Dr. Smith submits his new grant proposal to the committee, he asks several of his colleagues to read, revise, and make suggestions about his research design. He is engaging in one form of _____.
Answer: peer review
Diff: 2
Skill: Applied
APA LO: 1.3
TEXT LO: 2.5a Identify flaws in research designs and how to correct them.
Topic: Evaluating Psychological Research

24. Jay is writing an article for the school newspaper about student attendance. His main point is that during the final semester of one's senior year, a student is more likely to miss school. Data obtained from his principal indicate that, on any given day, 17% of the senior class is absent (compared to 12% of juniors, and 13% and 16% of sophomores and freshmen). His headline reads "Senioritis: A Real Phenomenon." He has engaged in use of the misleading tool of _____.
Answer: leveling
Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.5b Identify skills for evaluating psychological claims in the popular media.
Topic: Statistics: The Language of Psychological Research

25. When the media provide information about a scientific question, it often does so using a balanced coverage approach. This creates an artificial appearance of _____, and thus gives the impression that a scientific debate exists where it does not.
Answer: pseudosymmetry
Diff: 3
Skill: Conceptual
APA LO: 1.3
TEXT LO: 2.5b Identify skills for evaluating psychological claims in the popular media.
Topic: Statistics: The Language of Psychological Research

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Essay

1. Why is it necessary for psychologists to have so many different research designs to study human behavior?
Answer: Answers will vary but should contain the following points for full credit.

- Each research design has its own important limitations. Students should identify at least two examples from two different designs to earn full credit.
- The goals of research differ (some focus on description, others on predictions, and others on establishing causation).
- If different methods produce similar results, this increases our confidence in our understanding of a particular phenomenon (idea of convergence).

Diff: 2
Skill: Factual
APA LO: 2.1
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.; 2.2c Identify the components of an experiment and the potential pitfalls that can lead us to faulty conclusions and how psychologists control for these pitfalls.
Topic: Scientific Methodology: A Toolbox of Skills

2. Discuss how the concept of the illusory correlation would explain a friend's complaint that his fraternity/her sorority (or other student group) is always being displayed in a negative light by the campus newspaper while other groups are not treated the same.
Answer: Answers will vary but should include the following to earn full credit.

- Student should define or describe what the illusory correlation is in his/her answer (either directly or demonstrate an understanding indirectly).
- The student should discuss the general ideas associated with the "Great Fourfold Table of Life" (Table 2.2).
- More specifically, he or she should focus on the fact that the student—in the question—is focusing on instances where negative portrayal of the fraternity/sorority are occurring but is neglecting stories about the fraternity/sorority that are positive or have no evaluative component. Likewise, the student—in the question—is also ignoring when other groups are discussed negatively or other negative stories that are irrelevant to friend's group are published.

Diff: 3
Skill: Applied
APA LO: 1.3
TEXT LO: 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Topic: Scientific Methodology: A Toolbox of Skills

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3. Describe the roles of institutional review boards and statements of informed consent within the human research process.
Answer: Answers will vary but should contain the following for full credit.

- Institutional review boards (IRBs) exist to ensure that participants are protected against abuses from researchers. The members are drawn from different departments and must give their approval, and their concerns and requests for changes addressed, before research with human participants may begin.
- The informed consent ensures that participants understand what is being asked of them and what will be involved in their experience. Participants must be given enough information to make a decision to voluntarily participate in the research. If they are misled during the research, the missing information must be explained during a debriefing.

Diff: 2
Skill: Factual
APA LO: 3.1
TEXT LO: 2.3a Explain the ethical obligations of researchers toward their research participants.
Topic: Ethical Issues in Research Design

4. Explain why no single measure of central tendency and measure of dispersion exists that a researcher can use every single time.
Answer: Answers will vary but should contain the following information for full credit.

- Sometimes one measure is more appropriate than another. For example, the mean is distorted by the presence of outliers in a skewed distribution, so a researcher would be advised to report the median instead.
- It depends what information a researcher wants to highlight. For example, if a researcher wants to identify what was the most frequently endorsed option for a question, he or she would choose the mode. If he or she wants to report about how the scores were represented over all the possible answers, he or she would report the mean.
- Some people may wish to know the typical difference between scores and thus choose standard deviation, while others would look at the amount of difference from the most extreme scores and choose the range.
- A researcher cannot just report central tendency or dispersion because they each only tell part of the whole, either where scores are located (central tendency) or how much difference between scores is present (dispersion).

Diff: 3
Skill: Conceptual
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

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5. Illustrate why being an informed consumer about research, research designs, and statistics will be helpful in identifying incorrect statements about research in the media and on the Internet.
Answer: Answers will vary but should contain *at least four* of the following, and include the first idea, for full credit.

- Student should mention that understanding research designs will aid in identifying when statements of cause and effect are appropriate and when they are not. (Need to give supportive evidence for this and all statements to see that they truly demonstrate an understanding of each idea.)
- One will recognize misleading or inaccurate statistical statements.
- One will recognize when headlines are inaccurate summaries of the research results.
- One will recognize when reporters or writers have used sharpening or leveling.
- One will consider the source and whether the story coverage is balanced or whether it muddies the discussion.

Diff: 2
Skill: Conceptual
APA LO: 1.3
TEXT LO: 2.5b Identify skills for evaluating psychological claims in the popular media.
Topic: Evaluating Psychological Research

Critical Thinking

Discuss why researchers need to be familiar with both descriptive and inferential statistics.
Answer: Answers will vary but should contain the following ideas for full credit.

- Student needs to mention that each gives a different kind of information because each has differing goals (organization and summarization for descriptive and generalization for inferential).
- Techniques in each can be misused in different ways to make effects appear that really are not accurate or appropriate.
- Often both are used in conjunction by the researcher rather than being two types that are chosen between (e.g., using the means of the groups to help see the statistically significant group differences).

Diff: 3
Skill: Conceptual
APA LO: 1.1
TEXT LO: 2.4a Identify uses of various measures of central tendency and variability.
Topic: Statistics: The Language of Psychological Research

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CHAPTER 2: RESEARCH METHODS

Finding Relationships

1. A large group of people whom you want to know about is called a _____.
a. control group
b. treatment group
c. population
d. sample
Answer c % correct 79 a= 3 b= 3 c= 79 d= 16 *r* = .30

2. In an experiment to test the effects of anxiety on performance, the dependent variable is the _____.
a. amount of anxiety
b. age of the person
c. person's performance
d. cause of the anxiety
Answer c % correct 76 a= 18 b= 1 c= 76 d= 5 *r* = .30

3. A scientist, conducting a research study on sleep and learning, questions her own objectivity and decides to let a third person, not associated with conducting the experiment, score the tests. The scientist is probably trying to eliminate _____.
a. experimenter bias
b. sample bias
c. control bias
d. treatment bias
Answer a % correct 95 a= 95 b= 2 c= 3 d= 1 *r* = .25

4. Psychologists use research techniques based on _____.
a. inductive reasoning
b. objective introspection
c. deductive reasoning
d. the scientific method
Answer d % correct 86 a= 6 b= 3 c= 5 d= 86 *r* = .36

5. Research in which a carefully selected group of people is asked a set of predetermined questions in interviews or through questionnaires is known as _____.
a. correlational research
b. case study research
c. survey research
d. experimental research
Answer c % correct 83 a= 4 b= 13 c= 83 d= 0 *r* = .20

6. In an experiment, a researcher manipulates one variable to see how it affects a second variable. The second variable, which is observed for any possible effects, is called the _____.
a. dependent variable
b. control variable
c. independent variable
d. hypothetical variable
Answer a % correct 78 a= 78 b= 8 c= 9 d= 4 *r* = .47

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7. A psychologist, studying pilot trainees, picks a select group of trainees who are hopefully representative of all other trainees. The group of trainees being studied by this psychologist are collectively known to researchers as a _____.
a. sample
b. population
c. target group
d. control group
Answer a % correct 81 a= 81 b= 8 c= 7 d= 4 *r* = .46

8. Expectations by the experimenter that might influence the results of an experiment or their interpretation are called _____.
a. experimental blinds
b. experimenter bias
c. sample bias
d. treatment bias
Answer b % correct 97 a= 1 b= 97 c= 1 d= 1 *r* = .29

9. In a controlled experiment, the group subjected to a change in the independent variable is called the _____ group.
a. independent
b. experimental
c. dependent
d. control
Answer b % correct 77 a= 2 b= 77 c= 9 d= 12 *r* = .34

10. A scientist, conducting a research study on sleep and learning, questions her own objectivity and decides to let a third person, not associated with conducting the experiment, score the tests. The scientist is probably trying to eliminate _____.
a. experimenter bias
b. sample bias
c. control bias
d. treatment bias
Answer a % correct 96 a= 96 b= 0 c= 4 d= 0 *r* = .21

11. A subset of cases selected from a larger population is a _____.
a. control group
b. target group
c. treatment group
d. sample
Answer d % correct 89 a= 1 b= 9 c= 1 d= 89 *r* = .28

12. If explanation of the causes of thoughts, feelings, and behavior is a psychologist's goal, then the _____ method of research should be used.
a. correlational
b. experimental
c. survey
d. naturalistic observation
Answer b % correct 45 a= 15 b= 45 c= 14 d= 26 *r* = .52

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13. In a controlled experiment, the group not subjected to a change in the independent variable, and used for comparison with the group receiving the experimental change, is the _____ group.
a. independent
b. experimental
c. dependent
d. control
Answer d % correct 90 a= 3 b= 4 c= 4 d= 90 *r* = .42

14. A research method in which the real-life behavior of a pre-selected person or a group is studied at an in-depth level for some time through the use of observation, interviews, and writings (such as letters) is the _____ method of research.
a. survey
b. psychometric
c. case study
d. naturalistic observation
Answer c % correct 95 a= 3 b= 1 c= 95 d= 2 *r* = .20

15. In an experiment, a researcher manipulates one variable to see how it affects a second variable. The manipulated variable is called the:
a. dependent variable.
b. experimental variable.
c. independent variable.
d. placebo.
Answer c % correct 80 a= 14 b= 5 c= 80 d= 1 *r* = .45

16. A group of students was asked to write an essay in support of the legalization of marijuana. They were paid $.50. Another group of students received $2.00 for the same task. It was subsequently found that those students who received only $.50 developed a more positive attitude towards the legalization of marijuana. The experiment in this study was using (the) _____.
a. correlational method
b. experimental method
c. naturalistic observation
d. survey research
Answer b % correct 44 a= 47 b= 44 c= 1 d= 8 *r* = .31

17. A sample that does not truly represent the population in question is known as a _____sample.
a. random
b. chance
c. biased
d. representative
Answer c % correct 85 a= 13 b= 1 c= 85 d= 2 *r* = .36

18. A weakness of _____ is that subjects participating in the research often report, consciously and unconsciously, inaccurate information.
a. naturalistic observation
b. surveys
c. field experiments
d. laboratory experiments
Answer b % correct 80 a= 2 b= 80 c= 10 d= 8 *r* = .24

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19. To obtain objective information, researchers sometimes must deceive their subjects. Ethically, research involving deception must always _____.
a. pay participants
b. maintain subject anonymity
c. use double-blind control
d. explain the deception to the subjects after the data are collected and obtain their informed consent to use the information obtained
Answer d % correct 95 a= 0 b= 3 c= 3 d= 95 *r* = .34

20. As part of an assignment, Bill's class was asked to complete an anonymous questionnaire on prejudice. Which research method was Bill's professor using?
a. field experiment
b. survey
c. naturalistic observation
d. laboratory experiment
Answer b % correct 98 a= 1 b= 98 c= 1 d= 1 *r* = .24

21. To determine if sugar-rich diets affect hyperactivity in kids, a researcher prepared two daily menus that children would receive for a 30-day period. A high-sugar diet was given to the boys, while the girls had a menu that seemed identical but was not a high sugar diet. At the end of 30 days, the boys and girls were evaluated to determine their levels of hyperactivity. In the study, the high-sugar diet is the _____.
a. placebo
b. independent variable
c. dependent variable
d. control group
Answer b % correct 65 a= 8 b= 65 c= 13 d= 14 *r* = .51

22. Using both independent and dependent variables is associated with which of the following types of research used in psychology?
a. experimentation
b. naturalistic observation
c. correlation
d. correlation and experimentation
Answer a % correct 55 a= 55 b= 1 c= 5 d= 39 *r* = .23

23. Manipulating an independent variable in a real-life setting is _____.
a. an experiment
b. an example of naturalistic observation
c. a field experiment
d. unethical
Answer c % correct 65 a= 17 b= 11 c= 65 d= 6 *r* = .45

24. Almost all research done in psychology is analyzed _____.
a. visually
b. using correlational techniques
c. statistically
d. at the .1 level
Answer c % correct 51 a= 13 b= 31 c= 51 d= 4 *r* = .34

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25. As part of an assignment, Bill's class was asked to complete an anonymous questionnaire on sexual discrimination. Which research method was Bill's professor using?
a. field experiment
b. survey
c. naturalistic observation
d. laboratory experiment
Answer b % correct 97 a= 2 b= 97 c= 1 d= 0 *r* = .27

26. Collecting objective data without interference in the subject's normal environment is associated with _____.
a. survey research
b. applied research
c. laboratory research
d. naturalistic observation
Answer d % correct 95 a= 1 b= 1 c= 2 d= 95 *r* = .23

27. Experimenter bias can best be controlled using _____.
a. a placebo
b. double-blind control
c. randomization
d. subjects who do not know the purpose of the study
Answer b % correct 79 a= 2 b= 79 c= 16 d= 4 *r* = .46

28. A researcher, based on her review of relevant scientific studies, believes that there is a relationship between the frequency of a baby's crying and whether it was nursed at set intervals or on a demand schedule. If this belief were tested by experimentally manipulating feeding schedules, the feeding schedule would be called the:
a. independent variable.
b. dependent variable.
c. extraneous variable.
d. control factors.
Answer a % correct 76 a= 76 b= 17 c= 1 d= 6 *r* = .44

29. A researcher, based on her review of relevant scientific studies, believes that there is a relationship between the frequency of a baby's crying and whether it was nursed at set intervals or on a demand schedule. If this belief were tested by experimentally manipulating feeding schedules, frequency of crying would be called the:
a. latent factor.
b. dependent variable.
c. independent variable.
d. control factor.
Answer b % correct 64 a= 24 b= 64 c= 24 d= 9 *r* = .43

30. One of the main reasons for using a laboratory for psychological research is to:
a. prevent subjects from escaping.
b. study behavior in a natural setting.
c. do large-scale studies.
d. allow the researchers to control certain factors.
Answer d % correct 98 a= 0 b= 0 c= 2 d= 98 *r* = .33

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31. The process of establishing causal relationships is associated most with:
a. naturalistic observation.
b. experiments.
c. correlation.
d. surveys.
Answer b % correct 33 a= 45 b= 33 c= 14 d= 9 *r* = .43

32. A researcher tests the hypothesis that students who study in the room where they take their tests will perform better on the tests than students who study in other rooms. She requires one group to study in the classroom where the exam is given and another group to study in the library. All students take the test in the classroom, and their test performance is compared. In this example, where students study is the:
a. independent variable.
b. dependent variable.
c. manipulation.
d. hypothesis.
Answer a % correct 64 a= 64 b= 22 c= 10 d= 3 *r* = .27

33. A researcher tests the hypothesis that students who study in the room where they take their tests will perform better on the tests than students who study in other rooms. She requires one group to study in the classroom where the exam is given and another group to study in the library. All students take the test in the classroom, and their test performance is compared. In this example, test performance is:
a. the dependent variable.
b. the independent variable.
c. the manipulation.
d. the control group.
Answer a % correct 67 a= 67 b= 16 c= 11 d= 7 *r* = .47

34. In psychological studies, randomization is used to ensure that:
a. there will be an independent and dependent variable.
b. each person has an equal chance of being assigned to each group.
c. the control group does not know the purpose of the study.
d. the experimenter won't know who is in each group.
Answer b % correct 84 a= 5 b= 84 c= 3 d= 7 *r* = .33

35. A "fake treatment" is one way to define a _____.
a. decoy
b. demand characteristic
c. control group
d. placebo
Answer d % correct 81 a= 7 b= 6 c= 6 d= 81 *r* = .39

36. In an experiment, a researcher manipulates one variable to see how it affects a second variable. The manipulated variable is called the _____.
a. dependent variable
b. control variable
c. independent variable
d. hypothetical variable
Answer c % correct 83 a= 12 b= 4 c= 83 d= 1 *r* =.46

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37. In an experiment, a researcher manipulates one variable to see how it affects a second variable. The second variable, which is observed for any possible effects, is called the _____.
a. dependent variable
b. control variable
c. independent variable
d. hypothetical variable
Answer a % correct 87 a= 87 b= 1 c= 10 d= 3 *r* = .40

38. The method of psychological research which utilizes a control group, a dependent variable, and an independent variable is
a. the experiment.
b. the survey.
c. the case study.
d. naturalistic observation.
Answer a % correct 93 a= 93 b= 0 c= 4 d= 3 *r* = .21

39. Professor McSpell designed an experiment to test her hypothesis that exercise will increase spelling ability. She divided children into three groups and had one group do 10 minutes of exercises, one group do 30 minutes of exercises, and the third group do no exercise. She then tested all three groups of children to see how many words they could spell correctly on a spelling test. In this experiment, the scores on the spelling test serve as the
a. dependent variable.
b. independent variable.
c. control group.
d. reliability measure.
Answer a % correct 85 a= 85 b= 8 c= 0 d= 7 *r* = .46

40. Which of the following is a strength of experiments?
a. They cannot be repeated by anyone other than the experimenter.
b. They allow for the establishment of cause-effect relationships.
c. They are not subject to demand characteristics since the subjects do not know they are being observed.
d. They allow us to draw definitive conclusions about behavior in the natural environment based on subjects' behavior in the laboratory.
Answer b % correct 71 a= 0 b= 71 c= 5 d= 23 *r* = .25

41. In an experiment, the "measurable aspect of the behavior of the subject" is called the _____ variable.
a. dependent
b. focal
c. independent
d. control
Answer a % correct 76 a= 76 b= 1 c= 20 d= 3 *r* = .47

42. The purpose of an experiment is to discover whether there is a relationship between the _____ and the _____.
a. independent variable; control variable
b. dependent variable; control variable
c. control group; experimental group
d. independent variable; dependent variable
Answer d % correct 69 a= 4 b= 3 c= 24 d= 69 *r* = .30

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43. Cause-and-effect conclusions can be drawn from the results of an experiment because:
a. it is almost always performed in a laboratory setting.
b. statistical analysis can be applied to data from an experiment.
c. the independent variable is manipulated while other possible causes of change in the dependent variable are held constant.
d. several groups of subjects, not just one sample, are typically investigated in a laboratory experiment.
Answer c % correct 68 a= 4 b= 15 c= 68 d= 13 *r* = .28

44. Almost all research done in psychology is analyzed _____.
a. visually
b. using correlational techniques
c. statistically
d. at the .01 level
Answer c % correct 59 a= 15 b= 23 c= 59 d= 3 *r* = .27

45. In an experiment on the effects of level of motivation on the performance of typists, the researcher randomly assigned one third of her subjects to each of three levels of motivation (and then induced different levels of motivation in the three groups). She measured the average words typed per minute by each group, and found that performance was highest under medium motivation, average under low motivation, and worst under high motivation. What was the independent variable in this experiment?
a. motivation
b. typing speed
c. variation in typing speed
d. manipulation of typing speed
Answer a % correct 85 a= 85 b= 10 c= 3 d= 2 *r* = .40

46. A psychologist wanted to see if people are more prone to seek the company of others when anxious than when calm. He randomly assigned half of his subjects to an anxiety group and then told them that, as part of the study, they would receive electric shocks. He did not frighten the other group of subjects. Finally, he recorded how many subjects in each group chose to be "tested" in a group setting and how many chose to be "tested" alone. What was the independent variable in this study?
a. tendency to desire the company of others
b. level of shock
c. level of anxiety
d. the anxious group
Answer c % correct 54 a= 15 b= 22 c= 54 d= 9 *r* = .30

47. In an experiment, four groups of college students used different memorizing strategies to learn the material in one chapter of a textbook. Then each group was given the same multiple-choice test on the material. What was the dependent variable in this study?
a. the students' performance on the test
b. the four different groups
c. the four different memorizing strategies
d. manipulation of memorizing strategies
Answer a % correct 79 a= 79 b= 7 c= 9 d= 5 *r* = .58

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48. A psychologist wanted to see if people are more prone to seek the company of others when anxious than when calm. He randomly assigned half of his subjects to an anxiety group and then told them that, as part of the study, they would receive electric shocks. He did not frighten the other group of subjects. Finally, he recorded how many subjects in each group chose to be "tested" in a group setting and how many chose to be "tested" alone. What was the dependent variable in this study?
a. the two groups
b. the level of anxiety
c. preference for being alone or in a group
d. manipulation of anxiety
Answer c % correct 77 a= 4 b= 10 c= 77 d= 10 *r* = .64

49. A psychologist wanted to see if people are more prone to seek the company of others when anxious than when calm. He randomly assigned half of his subjects to an anxiety group and then told them that, as part of the study, they would receive electric shocks. He did not frighten the other group of subjects. Finally, he recorded how many subjects in each group chose to be "tested" in a group setting and how many chose to be "tested" alone. In this study, the group that was NOT frightened would be called the _____ group.
a. experimental
b. control
c. placebo
d. test
Answer b % correct 90 a= 8 b= 90 c= 2 d= 0 *r* = .27

50. The purpose of a control group in an experiment is to:
a. serve as a check on the interpretation of results.
b. increase the ability to generalize the findings.
c. manipulate the dependent variable.
d. represent the general, nonlaboratory population.
Answer a % correct 59 a= 59 b= 5 c= 6 d= 30 *r* = .28

51. In an experiment, the group of subjects to which the experimental group is compared is called the:
a. comparison group.
b. standard group.
c. confederate group.
d. control group.
Answer d % correct 97 a= 2 b= 1 c= 0 d= 97 *r* = .21

52. In an experiment concerning the effect of auditory feedback on accuracy in writing computer programs, one group hears a computer-simulated voice say each character or symbol that they type in as they are writing their programs. The second group does not receive the auditory feedback as they type their program lines. This second group is the _____ group.
a. experimental
b. control
c. placebo
d. confederate
Answer b % correct 79 a= 16 b= 79 c= 3 d= 3 *r* = .25

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53. Why is it essential that the experimental and control groups be treated identically in every respect but one?
a. so that the dependent variable can be accurately measured
b. so that the results will apply outside the laboratory setting.
c. so that if the behavior of the two groups differs, the difference can be credited to the one thing that distinguished the groups from one another.
d. so that if the behavior of the two groups differs, that difference can be used to establish a functional relationship between the independent and dependent variables.
Answer d % correct 40 a= 9 b= 1 c= 50 d= 40 *r* = .26

54. In an experiment, a researcher manipulates one variable to see how it affects a second variable. The manipulated variable is called the _____.
a. dependent variable
b. control variable
c. independent variable
d. hypothetical variable
Answer c % correct 77 a= 17 b= 6 c= 77 d= 0 *r* = .40

55. In an experiment, a researcher manipulates one variable to see how it affects a second variable. The second variable, which is observed for any possible effects, is called the _____.
a. dependent variable
b. control variable
c. independent variable
d. hypothetical variable
Answer a % correct 83 a= 83 b= 2 c= 14 d= 1 *r* = .45

56. As part of an assignment, Rick's class was asked to complete an anonymous questionnaire on female sexual harassment. Which research method was Bill's professor using?
a. field experiment
b. survey
c. naturalistic observation
d. laboratory experiment
Answer b % correct 97 a= 1 b= 97 c= 1 d= 0 *r* = .26

57. Collecting objective data without interference in the subject's normal environment is associated with:
a. survey research.
b. applied research.
c. laboratory research.
d. naturalistic observation.
Answer d % correct 94 a= 1 b= 2 c= 3 d= 94 *r* = .25

58. To determine if sugar-rich diets affect hyperactivity in kids, a researcher prepared two daily menus that children would receive for a 30-day period. A high-sugar diet was given to the boys, while the girls had a menu that seemed identical but was not a high sugar diet. At the end of 30 days, the boys and girls were evaluated to determine their levels of hyperactivity. In the study, the high-sugar diet is the _____.
a. placebo
b. independent variable
c. dependent variable
d. control group
Answer b % correct 82 a= 3 b= 82 c= 9 d= 5 *r* = .49

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59. An experiment was run in which group A was given 3 minutes to study a word list, while group B was given 10 minutes to study the same list. Later, both groups were asked to recall words from the list. In this study, the number of words recalled is the _____.
a. independent variable
b. dependent variable
c. placebo
d. control group
Answer b % correct 82 a= 10 b= 82 c= 5 d= 3 *r* = 40.

60. Dr. Welsh is doing experiments using drugs. He is concerned that his subjects will respond to demand characteristics. He may want to control for this by using which of the following?
a. stratification
b. two independent variables
c. a placebo
d. randomization
Answer c % correct 70 a= 4 b= 5 c= 70 d= 21 *r* = .33

61. Mr. Marshall hired June to collect data from a group of subjects. Neither June nor the subjects were aware of the independent variable that Mr. Marshall had manipulated. This is an example of _____.
a. randomization
b. a placebo
c. double-blind control
d. experimenter bias
Answer c % correct 97 a= 2 b= 1 c= 97 d= 1 *r* = .20

62. Which of the following is NOT a strength of the experiment as a research method?
a. Cause-and-effect relationships can be established.
b. Experimental conditions usually seem realistic to subjects.
c. Experiments can usually be replicated if the findings are valid.
d. Variables can be analyzed carefully because of the degree of control over them.
Answer b % correct 72 a= 11 b= 72 c= 2 d= 15 *r* = .23

63. Keeping responses anonymous helps researchers avoid the ethical problem of _____.
a. deception
b. experimenter bias
c. invasion of privacy
d. animal rights violations
Answer c % correct 70 a= 7 b= 21 c= 70 d= 2 *r* = .41

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Quiz 2.1: The Beauty and Necessity of Good Research Design

Key: Answer, Page, Type, Learning Objective, Level

Type
A=Applied
C=Conceptual
F=Factual
Level
(1)=Easy; (2)=Moderate; (3)=Difficult

LO=Learning Objective
SG=Used in Study Guide
p=page

Quiz: The Beauty and Necessity of Good Research Design

Multiple Choice Single Select

EOM Q2.1.1
Nobel prize winner Daniel Kahneman refers to intuitive thinking as System 1. What type of thinking does Kahneman refer to as System 2?

a) analytical
b) speculative
c) descriptive
d) impressionistic

ANS: a
Topic=The Beauty and Necessity of Good Research Design
Skill=Remember the Facts
Objective=LO 2.1a Identify two modes of thinking and their application to scientific reasoning
Difficulty=Easy
Consider This: We engage in this type of thinking whenever we are trying to reason through a problem. LO 2.1a Identify two modes of thinking and their application to scientific reasoning.

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EOM Q2.1.2
The cases of facilitated communication and lobotomies demonstrate that good research design is important because intelligent, well-trained people _____.

a) can be swayed into believing that a treatment is effective when it is not
b) usually do not conduct experiments
c) can be passively cruel in their pursuit of an outcome
d) only seek confirmatory evidence of their beliefs

ANS: a
Topic=The Beauty and Necessity of Good Research Design
Skill=Understand the Concepts
Objective=LO 2.1a Identify two modes of thinking and their application to scientific reasoning
Difficulty=Moderate
Consider This: These people also relied on intuitive thinking, relying largely on heuristics to infer whether a treatment was effective. LO 2.1a Identify two modes of thinking and their application to scientific reasoning.

EOM Q2.1.3
A mental shortcut or general "rule of thumb" is referred to as a(n) _____ by psychologists.

a) heuristic
b) algorithm
c) intuition
d) deliberation

ANS: a
Topic=The Beauty and Necessity of Good Research Design
Skill=Apply What You Know
Objective=LO 2.1a Identify two modes of thinking and their application to scientific reasoning.
Difficulty=Moderate
Consider This: These shortcuts can be useful, but sometimes they can let us down. LO 2.1a Identify two modes of thinking and their application to scientific reasoning.

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EOM Q2.1.4
Jerry is asked to estimate which is more common in the English language: Words that end in “ing” or words that have “-n-“ as the second-to-last letter. He mentally recites many examples of the first category (“running,” “jumping,” “flying,” “talking”) but can only think of a few examples of the second category (“sink,” “nine”). He judges that “ing” endings are more common, which of course is incorrect. (All words that end in “ing” also have “n” as the second-to-last letter; the addition of words that do not have an “”" and a “g” on either side of the “n” makes that second group larger.) After all this hubbub, it is clear that Jerry relied on _____ to reach his conclusion.

a) System 1 thinking
b) System 2 thinking
c) analogical reasoning
d) dialectical reasoning

ANS: a
Topic=The Beauty and Necessity of Good Research Design
Skill=Apply What You Know
Objective=LO 2.1a Identify two modes of thinking and their application to scientific reasoning.
Difficulty=Difficult
Consider This: Jerry did what most of us would do when trying to solve this problem, although the result was incorrect. LO 2.1a Identify two modes of thinking and their application to scientific reasoning.

EOM Q2.1.5
Analytical thinking is _____ compared to intuitive thinking.

a) slow
b) immediate
c) painful
d) heuristic

ANS: a
Topic=The Beauty and Necessity of Good Research Design
Skill=Remember the Facts
Objective=LO 2.1a Identify two modes of thinking and their application to scientific reasoning.
Difficulty=Easy
Consider This: Modes of thinking have different strengths and weaknesses. LO 2.1a Identify two modes of thinking and their application to scientific reasoning.

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Quiz 2.2: Scientific Methodology: A Toolbox of Skills

Key: Answer, Page, Type, Learning Objective, Level

Type
A=Applied
C=Conceptual
F=Factual
Level
(1)=Easy; (2)=Moderate; (3)=Difficult

LO=Learning Objective
SG=Used in Study Guide
p=page

Quiz: Scientific Methodology: A Toolbox of Skills

Multiple Choice Single Select

EOM Q2.2.1
If we want to study people's actual behavior "in the wild" without them being influenced by the researcher, we can use _____.

a) naturalistic observation
b) repeated-measures designs
c) correlational designs
d) experimental designs

ANS: a
Topic=The Scientific Method: Toolbox of Skills
Skill=Remember the Facts
Objective=LO 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Difficulty=Easy
Consider This: With this technique, we watch behavior take place without intervening. LO 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.

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EOM Q2.2.2
Sherri wants to design a self-report measure for her study of personality traits, but she knows she should be concerned that respondents might distort their answers, especially to paint themselves in a positive light. This tendency is known as _____.

a) a response set
b) the halo effect
c) a legitimacy set
d) the mediator effect

ANS: a
Topic=The Scientific Method: Toolbox of Skills
Skill=Apply What You Know
Objective=LO 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures. LO 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Difficulty=Moderate
Consider This: On an anonymous survey, would you be completely frank in your evaluation of yourself? LO 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.

EOM Q2.2.3
The easiest way to determine if two variables are associated with one another is to use a(n) _____ research design.

a) correlational
b) experimental
c) naturalistic
d) case study

ANS: a
Topic=The Scientific Method: Toolbox of Skills
Skill=Analyze It
Objective=LO 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Difficulty=Easy
Consider This: Different research designs have associated strengths and weaknesses. Which kind of design would be most appropriate to the goals stated here? LO 2.2b Describe the role of correlational designs and distinguish correlation from causation.

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EOM Q2.2.4
The only research designs that allow us the possibility of drawing cause-and-effect inferences are _____.

a) experimental designs
b) correlational designs
c) survey methods
d) naturalistic designs

ANS: a
Topic=The Scientific Method: Toolbox of Skills
Skill=Apply What You Know
Objective=LO 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Difficulty=Moderate
Consider This: This research approach is the "gold standard" for determining causality. LO 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.

EOM Q2.2.5
The two ingredients that make a research study an experiment are 1) random assignment of participants to conditions, and 2) _____.

a) manipulation of an independent variable
b) manipulation of a dependent variable
c) external validity gained through real-world control
d) high inter-rater reliability

ANS: a
Topic=The Scientific Method: Toolbox of Skills
Skill=Remember the Facts
Objective=LO 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control these pitfalls.
Difficulty=Easy
Consider This: Experimentation, by definition, requires these two features to be present at a minimum. LO 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control these pitfalls.

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Quiz 2.3: Ethical Issues in Research Design

Key: Answer, Page, Type, Learning Objective, Level

Type
A=Applied
C=Conceptual
F=Factual
Level
(1)=Easy; (2)=Moderate; (3)=Difficult

LO=Learning Objective
SG=Used in Study Guide
p=page

Quiz: Ethical Issues in Research Design

Multiple Choice Single Select

EOM Q2.3.1
The APA Ethical Principles for Human Research state: "A contact [person] who can answer questions about the research and the participant's rights should be provided." This statement is most relevant in which of the following aspects of ethical research?

a) informed consent
b) protection from harm and discomfort
c) deception and debriefing
d) expectation of privacy

ANS: a
Topic=Ethical Issues in Research Design
Skill=Remember the Facts
Objective=LO 2.3a Explain the ethical obligations of researchers toward their research participants.
Difficulty=Easy
Consider This: Participants should be given enough information to make a reasonable decision regarding their participation in a research study. LO 2.3a Explain the ethical obligations of researchers toward their research participants.

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EOM Q2.3.2
The authors accept the philosophical belief that science is _____; that is, neither good nor bad in itself.

a) value-neutral
b) ethically static
c) morally indefensible
d) conscience-free

ANS: a
Topic=Ethical Issues in Research Design
Skill=Understand the Concepts
Objective=LO 2.3a Explain the ethical obligations of researchers toward their research participants.
Difficulty=Moderate
Consider This: Scientific *research* is not considered to be this, as there are both ethical and unethical ways of searching for the truth. LO 2.3a Explain the ethical obligations of researchers toward their research participants.

EOM Q2.3.3
What shameful experiment was conducted over the course of 40 years to determine what would happen if syphilis was left to run its course in unsuspecting "subjects" (at a time when a cure for the disease was already available)?

a) the Tuskegee study
b) the Syphilis study
c) the Milgram experiment
d) the Vivisection experiment

ANS: a
Topic=Ethical Issues in Research Design
Skill=Apply What You Know
Objective=LO 2.3a Explain the ethical obligations of researchers toward their research participants.
Difficulty=Moderate
Consider This: The subjects did not know they were part of a research study, as the researchers had never informed them of that fact. LO 2.3a Explain the ethical obligations of researchers toward their research participants.

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EOM Q2.3.4
Research involving animals can generate strong, often negative, feelings among people. This is especially so when the research involves _____ procedures that cause physical harm to the animals.

a) invasive
b) exploratory
c) generative
d) unplanned

ANS: a
Topic=Ethical Issues in Research Design
Skill=Understand the Concepts
Objective=LO 2.3b Describe both sides of the debate on the use of animals as research subjects
Difficulty=Difficult
Consider This: Researchers must weigh carefully the potential scientific gains of their inquiries against the costs in death and suffering they produce. LO 2.3b Describe both sides of the debate on the use of animals as research subjects.

EOM Q2.3.5
Why do most individuals on both sides of the animal rights debate believe that it is a bad idea for animal activists to release captive laboratory animals?

a) Many of the animals die shortly after being released.
b) Humans may be bitten or clawed by fleeing animals.
c) The animals could spread diseases to the nearby human population.
d) Cures for diseases might not be found without these animal subjects.

ANS: a
Topic=Ethical Issues in Research Design
Skill=Remember the Facts
Objective=LO 2.3b Describe both sides of the debate on the use of animals as research subjects.
Difficulty=Moderate
Consider This: Laboratory animals are typically bred and raised for that purpose. LO 2.3b Describe both sides of the debate on the use of animals as research subjects.

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Quiz 2.4: The Language of Psychological Research

Key: Answer, Page, Type, Learning Objective, Level

Type
A=Applied
C=Conceptual
F=Factual
Level
(1)=Easy; (2)=Moderate; (3)=Difficult

LO=Learning Objective
SG=Used in Study Guide
p=page

Quiz: Statistics: The Language of Psychological Research

Multiple Choice Single Select

EOM Q2.4.1
Which term indicates applying mathematics to describe and analyze data?

a) statistics
b) information
c) research
d) science

ANS: a
Topic=Statistics: The Language of Psychological Research
Skill=Remember the Facts
Objective=LO 2.4a Identify uses of various measures of central tendency and variability
Difficulty=Easy
Consider This: Psychologists use two different kinds: descriptive and inferential. LO 2.4a Identify uses of various measures of central tendency and variability.

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EOM Q2.4.2
The technical term for a score that is much higher or lower than the typical responses, and might produce a misleading interpretation of the data set, is _____.

a) an outlier
b) a variable
c) the range
d) a skewer

ANS: a
Topic=Statistics: The Language of Psychological Research
Skill=Apply What You Know
Objective=LO 2.4a Identify uses of various measures of central tendency and variability.
Difficulty=Moderate
Consider This: Imagine a situation where most people scored 53 on a test, but one person scored a 78 and another scored a 22. LO 2.4a Identify uses of various measures of central tendency and variability.

EOM Q2.4.3
Questions such as, "What is the average level of extraversion in this sample?" call for the use of which kind of statistics?

a) descriptive
b) inferential
c) influential
d) deterministic

ANS: a
Topic=Statistics: The Language of Psychological Research
Skill=Remember the Facts
Objective=LO 2.4a Identify uses of various measures of central tendency and variability
Difficulty=Easy
Consider This: This term is used for techniques that summarize what is happening in a set of values. LO 2.4a Identify uses of various measures of central tendency and variability.

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EOM Q2.4.4
Freda is reading a journal article in psychology, and sees that a statistically significant outcome would have occurred by chance alone only 5 out of 100 times. This statement would be summarized in the journal article as _____.

a) $p < .05$
b) $p = 5\%$
c) $p > .05$
d) $p \times 5 = 100$

ANS: a
Topic=Statistics: The Language of Psychological Research
Skill=Remember the Facts
Objective=LO 2.4b Explain how inferential statistics can help us to determine whether we can generalize from our sample to the full population.
Difficulty=Moderate
Consider This: If a result is likely to have occurred less than 5 times out of 100 by sheer chance alone, scientists usually agree that the result is statistically significant; that is, something noteworthy to be interpreted. LO 2.4b Explain how inferential statistics can help us to determine whether we can generalize from our sample to the full population.

EOM Q2.4.5
Mark Twain referred to three kinds of untruths: "Lies, damned lies, and statistics," because _____.

a) statistics sometimes can be used to mislead people
b) inferential statistics are generally wrong
c) descriptive statistics are generally wrong
d) statisticians are generally unethical

ANS: a
Topic=Statistics: The Language of Psychological Research
Skill=Analyze It
Objective=LO 2.4c Show how statistics can be misused for purposes of persuasion
Difficulty=Easy
Consider This: Understanding how basic statistical procedures work is the first step toward being able to counter the unscrupulous use of statistics in the service of advancing a particular point of view. LO 2.4c Show how statistics can be misused for purposes of persuasion.

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Quiz 2.5: Evaluating Psychological Research

Key: Answer, Page, Type, Learning Objective, Level

Type
A=Applied
C=Conceptual
F=Factual
Level
(1)=Easy; (2)=Moderate; (3)=Difficult

LO=Learning Objective
SG=Used in Study Guide
p=page

Quiz: Evaluating Psychological Research

Multiple Choice Single Select

EOM Q2.5.1
Dr. Ingo Larsen is testing the effectiveness of a new memory-enhancing study technique. He greets each participant at the door and escorts them into either the control group (that receives the old memory technique) or the experimental group (that receives the new memory technique). He then conducts the experiment and analyzes the results. This is all quite problematic, because of the potential presence of _____.

a) experimenter expectancy effects
b) nocebo outcomes
c) rival hypotheses
d) sharpening and leveling

ANS: a
Topic=Evaluating Psychological Research
Skill=Analyze It
Objective=LO 2.5a Identify flaws in research designs and how to correct them.
Difficulty=Difficult
Consider This: To control for this effect and minimize confirmation bias, it might be better to keep Dr. Larsen blind to the group assignment when he collects data during the course of the study. LO 2.5a Identify flaws in research designs and how to correct them.

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EOM Q2.5.2
One primary purpose of sending research articles to peer reviewers prior to publication is to _____.

a) identify flaws in the research
b) give those with opposing views equal time for rebuttal
c) give everyone an equal chance to publish her or his research.
d) maintain leadership among experts in the field

ANS: a
Topic=Evaluating Psychological Research
Skill=Understand the Concepts
Objective=LO 2.5a Identify flaws in research designs and how to correct them.
Difficulty=Moderate
Consider This: Outside reviewers screen the articles carefully for quality control. LO 2.5a Identify flaws in research designs and how to correct them.

EOM Q2.5.3
One important aspect of a research study that peer reviewers consider is whether the study considers alternate explanations. This is called _____.

a) ruling out rival hypotheses
b) diminishing internal validity
c) generating counterfactuals
d) rendering external validity

ANS: a
Topic=Evaluating Psychological Research
Skill=Understand the Concepts
Objective=LO 2.5a Identify flaws in research designs and how to correct them.
Difficulty=Moderate
Consider This: Research should be designed in such a way as to keep most elements constant while varying only the key elements under study. LO 2.5a Identify flaws in research designs and how to correct them.

EOM Q2.5.4
In the popular media (as opposed to scientific journals), research results can be presented in a misleading way because reporters have the tendency to exaggerate the gist or central message of the study. This is called _____.

a) sharpening
b) oversimplifying
c) leveling
d) dumbing down

ANS: a
Topic=Evaluating Psychological Research
Skill=Remember the Facts
Objective=LO 2.5b Identify skills for evaluating psychological claims in the popular media.
Difficulty=Easy
Consider This: Secondary sources in the news media need to engage in a certain amount of this when reporting studies, because they cannot possibly describe every detail that took place in a scientific investigation. LO 2.5b Identify skills for evaluating psychological claims in the popular media.

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EOM Q2.5.5
Media reports have a tendency to try to present two opposing sides of an issue as though both sides were equally valid. What is this tendency called?

a) pseudosymmetry
b) balanced reporting
c) placebo effect
d) leveling

ANS: a
Topic=Evaluating Psychological Research
Skill=Understand the Concepts
Objective=LO 2.5b Identify skills for evaluating psychological claims in the popular media
Difficulty=Moderate
Consider This: This is also known as the appearance of a scientific controversy where none exists.
LO 2.5b Identify skills for evaluating psychological claims in the popular media.

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Chapter 2 Quiz: Research Methods

Key: Answer, Page, Type, Learning Objective, Level

Type
A=Applied
C=Conceptual
F=Factual
Level
(1)=Easy; (2)=Moderate; (3)=Difficult

LO=Learning Objective
SG=Used in Study Guide
p=page

Chapter Quiz: Research Methods

Multiple Choice Single Select

EOC Q2.1
Bruno is asked to estimate which California city occupies a greater area: San Francisco or San Jose. "San Francisco is a big city," he muses, "whereas San Jose is out in the suburbs. San Francisco must be bigger." In actuality, San Francisco occupies about 48 square miles, compared to San Jose's 180 square miles. Bruno was mislead because he relied on _____.

a) a heuristic
b) an algorithm
c) System 2 thinking
d) hegemony

ANS: a
Topic=The Beauty and Necessity of Good Research Design
Skill=Remember the Facts
Objective=LO 2.1a Identify two modes of thinking and their application to scientific reasoning.
Difficulty=Easy
Consider This: Bruno made a quick judgment based on his intuitions about population and city size.
LO 2.1a Identify two modes of thinking and their application to scientific reasoning.

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EOC Q2.2
Naturalistic observation can be problematic if people realize they are being observed. This is because they might _____.

a) change their behavior
b) get angry and attack the researcher
c) violate the external validity of the study
d) report unethical behavior

ANS: a
Topic=The Scientific Method: Toolbox of Skills
Skill=Understand the Concepts
Objective=LO 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Difficulty=Moderate
Consider This: Naturalistic behavior needs to be natural. LO 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures.

EOC Q2.3
Which term refers to the type of descriptive statistic that tells us where the scores tend to cluster in a set of measurements?

a) central tendency
b) variability
c) standard deviation
d) measure of range

ANS: a
Topic=Statistics: The Language of Psychological Research
Skill=Apply What You Know
Objective=LO 2.4a Identify uses of various measures of central tendency and variability.
Difficulty=Moderate
Consider This: There are three measures of this: mean, median, and mode. LO 2.4a Identify uses of various measures of central tendency and variability.

EOC Q2.4
When we perceive a reliable association between two events (although none exists), such as the presence of rainy weather and arthritis flare-ups, we are experiencing the phenomenon called _____.

a) statistical anomaly
b) invalid assumption
c) ethical mirage
d) illusory correlation

ANS: d
Topic=The Scientific Method: Toolbox of Skills
Skill=Analyze It
Objective=LO 2.2b Describe the role of correlational designs and distinguish correlation from causation.
Difficulty=Difficult
Consider This: For 20 years, Wade Boggs ate chicken before every game, believing this particular habit was correlated with successful performance at bat. 2.2b Describe the role of correlational designs and distinguish correlation from causation.

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EOC Q2.5
Which ethical procedure is being followed when researchers let test subjects know what they are likely to encounter during an experiment before the subjects agree to participate?

a) informed consent
b) debriefing
c) scientific method
d) institutional review

ANS: a
Topic=Ethical Issues in Research Design
Skill=Remember the Facts
Objective=LO 2.3a Explain the ethical obligations of researchers toward their research participants.
Difficulty=Easy
Consider This: During this process, participants can ask questions about the study and learn more about what will be involved. LO 2.3a Explain the ethical obligations of researchers toward their research participants.

EOC Q2.6
To be sure that we are not fooled by popular media reports about psychology research, we should be on the lookout for _____.

a) sharpening and leveling
b) dumbing down
c) the placebo effect
d) deliberate deception

ANS: a
Topic=Evaluating Psychological Research
Skill=Understand the Concepts
Objective=LO 2.5b Identify skills for evaluating psychological claims in the popular media.
Difficulty=Moderate
Consider This: This often ends up bringing the most important facts of a study into clearer focus, at the expense of pertinent details or caveats in the study. LO 2.5b Identify skills for evaluating psychological claims in the popular media.

EOC Q2.7
You want to design a study that will be high in internal validity and will allow you to infer causation. Which research design should you use?

a) experimental design
b) correlational design
c) case studies
d) naturalistic observation

ANS: a
Topic=The Scientific Method: Toolbox of Skills
Skill=Apply What You Know
Objective=LO 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control these pitfalls.
Difficulty=Moderate
Consider This: Researchers manipulate variables to see whether these manipulations produce differences in participants' behavior. LO 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.

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EOC Q2.8
A central issue in considering medical and psychological research using animals is balancing the advances gained through such experimentation against _____.

a) the costs in death and suffering they produce for the test subjects
b) the backlash of animal rights activists
c) possibly negative publicity focused on the research center
d) the exhorbitant financial costs of animal research

ANS: a
Topic=Ethical Issues in Research Design
Skill=Analyze It
Objective=LO 2.3b Describe both sides of the debate on the use of animals as research subjects.
Difficulty=Difficult
Consider This: Animal researchers are called upon to strike a balance between two basic considerations. LO 2.3b Describe both sides of the debate on the use of animals as research subjects.

EOC Q2.9
The process of soliciting feedback from qualified experts in a research area prior to publishing the results of a research study is called _____.

a) peer review
b) professional critique
c) vetting for publication
d) editorial correction

ANS: a
Topic=Evaluating Psychological
Skill=Remember the Facts
Objective=LO 2.5a Identify flaws in research designs and how to correct them.
Difficulty=Easy
Consider This: Nearly all psychological journals send submitted articles to outside reviewers, who screen the articles carefully for quality control. LO 2.5a Identify flaws in research designs and how to correct them.

EOC Q2.10
We say that a result has practical significance if it _____.

a) makes a difference in the real world
b) would occur by chance less than 5 times in 100
c) results from manipulating a single variable
d) is not statistically significant

ANS: a
Topic=Statistics: The Language of Psychological Research
Skill=Remember the Facts
Objective=LO 2.4b Explain how inferential statistics can help us to determine whether we can generalize from our sample to the full population.
Difficulty=Easy
Consider This: There are different senses in which a research outcome might be "significant." LO 2.4b Explain how inferential statistics can help us to determine whether we can generalize from our sample to the full population.

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EOC Q2.11
When a politician makes the statement that the average tax return will be $5,000 for citizens of her state, we should be suspicious of her statistics. It would be more meaningful to report the _____ as a measure of central tendency.

a) median or mode
b) highest and lowest refunds
c) refund of an individual "typical" taxpayer
d) average of refunds in all similar states

ANS: a
Topic=Statistics: The Language of Psychological Research
Skill=Understand the Concepts
Objective=LO 2.4c Show how statistics can be misused for purposes of persuasion.
Difficulty=Difficult
Consider This: There are multiple measures of central tendency for a reason; they reveal different kinds of information and have associated strengths and weaknesses. LO 2.4c Show how statistics can be misused for purposes of persuasion.

EOC Q2.12
Dr. Sardonicus is designing a case study in order to demonstrate that a particular psychological phenomenon actually happens. Case studies can be useful in providing this kind of demonstration, also known as _____.

a) existence proof
b) peer review
c) internal validity
d) external validity

ANS: a
Topic=The Scientific Method: Toolbox of Skills
Skill=Apply What You Know
Objective=LO 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Difficulty=Moderate
Consider This: Before designing a fancy, complicated research study, a more basic question might be whether a phenomenon occurs at all. LO 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.

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EOC Q2.13
Which term describes a curved line on a graph that can be bell shaped, negatively skewed, or positively skewed?

a) distribution curve
b) truncated line graph
c) bar graph
d) scatterplot

ANS: a
Topic=Statistics: The Language of Psychological Research
Skill=Analyze It
Objective=LO 2.4a Identify uses of various measures of central tendency and variability.
Difficulty=Difficult
Consider This: The examples listed are all possible shapes that a set of measurements might take when graphed. LO 2.4a Identify uses of various measures of central tendency and variability.

EOC Q2.14
The APA Ethical Principles for Human Research indicate that psychologists must take reasonable steps to _____.

a) avoid harming participants
b) ensure accurate data collection
c) use human subjects instead of animals whenever possible
d) use deceptive techniques

ANS: a
Topic=What is Psychology? Science Versus Intuition
Skill=Remember the Facts
Objective=LO 2.3a Explain the ethical obligations of researchers toward their research participants
Difficulty=Easy
Consider This: Psychological researchers must carefully attend to several principles when designing and conducting research. LO 2.3a Explain the ethical obligations of researchers toward their research participants.

EOC Q2.15
The story of how facilitated communication was debunked is a powerful illustration of the triumph of science over _____.

a) pseudoscience
b) autism
c) child abuse
d) affliction

ANS: a
Topic=The Beauty and Necessity of Good Research Design
Skill=Understand the Concepts
Objective=LO 2.1a Identify two modes of thinking and their application to scientific reasoning.
Difficulty=Moderate
Consider This: Properly designed scientific studies have been able to show when treatments work and when they do not. LO 2.1a Identify two modes of thinking and their application to scientific reasoning.

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EOC Q2.16
You are reading an article in a psychology journal that has an accompanying, two-dimensional graph with dots representing data from individual people. This is called a _____.

a) scatterplot
b) scattershot
c) data rendering
d) point system

ANS: a
Topic=The Scientific Method: Toolbox of Skills
Skill=Apply What You Know
Objective=LO 2.2b Describe the role of correlational designs and distinguish correlation from causation
Difficulty=Moderate
Consider This: Examining this type of graph can reveal patterns in the data, especially regarding how variables are related to one another. LO 2.2b Describe the role of correlational designs and distinguish correlation from causation.

EOC Q2.17
When evaluating a story about psychology research, we should generally place more confidence in a reputable science journal than a popular magazine. Which phrase encapsulates that idea?

a) Consider the source.
b) There are two sides to every story.
c) Every cloud has a silver lining.
d) You get what you pay for.

ANS: a
Topic=Evaluating Psychological Research
Skill=Remember the Facts
Objective=LO 2.5b Identify skills for evaluating psychological claims in the popular media.
Difficulty=Easy
Consider This: We should place more trust in findings from primary sources, such as original journal articles, than from secondary sources, such as newspapers, magazines, or websites. LO 2.5b Identify skills for evaluating psychological claims in the popular media.

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EOC Q2.18
Because carefully controlled studies generate more trustworthy results, the high internal validity of these studies can lead to _____.

a) high external validity
b) correlation of causation
c) further studies
d) lack of falsifiability

ANS: a
Topic=The Scientific Method: Toolbox of Skills
Skill=Understand the Concepts
Objective=LO 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Difficulty=Moderate
Consider This: Recall the distinction between internal and external validity. LO 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.

EOC Q2.19
The two kinds of statistics used by psychologists are descriptive statistics and _____ statistics.

a) inferential
b) variable
c) ethical
d) distributed

ANS: a
Topic=Statistics: The Language of Psychological Research
Skill=Understand the Concepts
Objective=LO 2.4b Explain how inferential statistics can help us to determine whether we can generalize from our sample to the full population.
Difficulty=Easy
Consider This: These two types serve different functions; together, they help researchers fully understand what is going on in a set of measurements. LO 2.4b Explain how inferential statistics can help us to determine whether we can generalize from our sample to the full population.

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EOC Q2.20
Which group at every major American research college and university reviews all research carefully to protect participants against abuses?

a) institutional review board
b) institutional research bureau
c) investigative review bureau
d) investigative research board

ANS: a
Topic=Ethical Issues in Research Design
Skill=Apply What You Know
Objective=LO 2.3a Explain the ethical obligations of researchers toward their research participants.
Difficulty=Moderate
Consider This: IRBs typically consist of faculty members drawn from various departments within a college or university, as well as one or more outside members, such as a person drawn from the nearby community. LO 2.3a Explain the ethical obligations of researchers toward their research participants.

EOC Q2.21
The type of thinking that allows us to operate on "autopilot" and make snap decisions is called _____.

a) intuitive
b) analogical
c) analytical
d) System 2

ANS: a
Topic=The Beauty and Necessity of Good Research Design
Skill=Remember the Facts
Objective=LO 2.1a Identify two modes of thinking and their application to scientific reasoning.
Difficulty=Easy
Consider This: We engage in this type of thinking when we meet someone new and form an immediate first impression of him or her. LO 2.1a Identify two modes of thinking and their application to scientific reasoning.

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EOC Q2.22
Questionnaires fall into which category of measurement tools?

a) self-report measures
b) test-retest measures
c) interrater reliability measures
d) validity measures

ANS: a
Topic=The Scientific Method: Toolbox of Skills
Skill=Remember the Facts
Objective=LO 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.
Difficulty=Easy
Consider This: If we want to find out about someone's personality and attitudes, a good place to start is to ask them directly. LO 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.

EOC Q2.23
Megan wanted to get a measure of the amount of variability in her set of data, so she subtracted the lowest score from the highest score. Megan computed the _____.

a) range
b) standard of deviation
c) inferential
d) integral

ANS: a
Topic=Statistics: The Language of Psychological Research
Skill=Apply What You Know
Objective=LO 2.4a Identify uses of various measures of central tendency and variability
Difficulty=Moderate
Consider This: Although this is the easiest measure of variability to calculate, it can be deceptive. LO 2.4a Identify uses of various measures of central tendency and variability.

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EOC Q2.24
In a study in which college students are pampered (given endless amounts of money, cable TV, and spicy Chinese food) to see whether this will improve their scores in their psychology course, what is the *independent variable*?

a) whether students were pampered or not
b) students' scores on the next psychology midterm
c) students' scores on the next midterm minus the baseline score
d) students' previous scores (or baseline) on psychology midterms

ANS: a
Topic=What Is Psychology? Science Versus Intuition
Skill=Analyze It
Objective=LO 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.
Difficulty=Difficult
Consider This: Think about why the independent variable is called that. LO 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control for these pitfalls.

EOC Q2.25
If subjects' scores on a self-esteem scale are consistent over time, the scale has high _____ reliability.

a) test-retest
b) interrater
c) interlocutor
d) Meehl-determinant

ANS: a
Topic=Scientific Method: Toolbox of Skills
Skill=Understand the Concepts
Objective=LO 2.2c Identify the components of an experiment, the potential pitfalls that can lead to faulty conclusions, and how psychologists control these pitfalls.
Difficulty=Moderate
Consider This: The focus here is on stability over an extended period. LO 2.2a Describe the advantages and disadvantages of using naturalistic observation, case studies, self-report measures, and surveys.

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