# *Childhood and Adolescence 6th edition Rathus Test Bank*

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# TRUE/FALSE

1 : Polygenic traits are transmitted by a single pair of genes.
A : true
B : false

Correct Answer : B

2 : Sex chromosomes utilize meiosis to divide.
A : true
B : false

Correct Answer : A

3 : The typical sex chromosome pattern for females is XY.
A : true
B : false

Correct Answer : B

4 : Monozygotic twins are conceived from separate egg cells.
A : true
B : false

Correct Answer : B

5 : Carriers for traits have two recessive genes for those traits.
A : true
B : false

Correct Answer : B

6 : Klinefelter syndrome affects females and males equally.
A : true
B : false

Correct Answer : B

7 : PKU, which causes intellectual disability, can be controlled by diet.
A : true
B : false

Correct Answer : A

8 : Ultrasound is used in amniocentesis and CVS.
A : true
B : false

Correct Answer : A

9 : Our phenotype is influenced by the environment.
A : true

B : false

Correct Answer : A

10 : Parents and children have a 25% overlap in genes.
A : true
B : false

Correct Answer : B

11 : Male fetuses have a lower rate of spontaneous abortion than females.
A : true
B : false

Correct Answer : B

12 : The term infertility is applied to couples that have failed to conceive for a year or more.
A : true
B : false

Correct Answer : A

13 : Pelvic inflammatory disease (PID) can result from a variety of bacterial or viral infections.
A : true
B : false

Correct Answer : A

14 : Preimplantation genetic diagnosis is a reliable method for selecting the sex of a child.
A : true
B : false

Correct Answer : A

15 : Mothers who give up their children for adoption often experience guilt, feelings of loss, and curiosity about how their child is developing and adjusting.
A : true
B : false

Correct Answer : A

# SHORT RESPONSE

16 : Briefly describe the difference(s) between cell division as the result of meiosis and cell division as the result of mitosis.

Correct Answer : Meiosis is also referred to as “reduction division.” This means that the 46 chromosomes within the cell nucleus line up into 23 pairs. These 23 pairs then split and one member from each pair goes to each newly formed cell. Because of this, the newly formed cells have half the genetic material contained in the original cell. In this sense, the cells are not identical but share 50 percent genetic similarity. With mitosis, the identical genetic code is

carried into each newly formed cell in the body. In other words, these cells, when they divide, are identical to the cells that divided to form them. Cloning results from mitosis. Because the newly formed cells are “replications” of the preceding cell, there is no genetic variability.?

17 : Briefly describe the difference(s) between recessive and dominant genes.

Correct Answer : Some genes are “dominant” and others are “recessive.” Dominant genes are more likely to be expressed than recessive genes. Eye color is a good example. With eye color, brown eyes are dominant and blue eyes are recessive. If one parent carries the gene for brown eyes only and the other for blue eyes only, the offspring would have brown eyes (that color would dominate). If, however, both parents carry recessive genes for blue eyes, those can combine and blue eyes will be expressed. In a sense, two recessive genes can overcome the dominance of a single gene.

18 : What are chromosomal disorders?

Correct Answer : Chromosomal disorders occur when children do not have the correct pairings or complement of 46 chromosomes. Chromosomal abnormalities are more common in children of older mothers and fathers. Down syndrome, for example, is caused by having an extra chromosome on the 21st pair, resulting in 47 chromosomes. There are also disorders linked to the sex chromosomes. For example, “supermales” have an extra Y chromosome on the 23rd pair. Males with an extra X chromosome are said to have Klinefelter syndrome, characterized by underdeveloped male secondary sex characteristics and mild mental retardation. A female with a single X chromosome is said to have Turner syndrome, characterized by underdevelopment of female secondary sex characteristics and problems in mathematics and visual-spatial skills.

19 : A friend of yours is pregnant. She has read about the potential problems that could occur with a pregnancy. Based on this chapter, what three pieces of advice would you offer to ease this persons concerns for her unborn child?

Correct Answer : The chances of problems during pregnancy are enhanced by external factors such as toxins (alcohol, smoking) and maternal characteristics (such as genetics and age at conception). Some of these things can be minimized and/or avoided. If the person is really worried, she may want to consider prenatal testing to see if there are serious disorders she might want to be aware of. Additionally, however, it should be acknowledged that genetic screening procedures do bring some element of risk to the pregnancy. The best thing the mother can do is to make the fetal environment as healthy as possible. She can exercise, take prenatal vitamins, eat a balanced diet, and refrain from smoking or ingesting alcohol and other drugs. Lastly, her overall chances of delivering a healthy child are significantly higher than of having a child with a disease or a disorder.

20 : A friend has asked you to describe the difference between genotype and phenotype. Based upon the material in Chapter Two of the textbook, how would you describe the difference?

Correct Answer : Genotype refers to the genetic material that is received from one’s parents. Characteristics such as blood type and eye color, for example, are determined by our genotype. Genotype determines a range in which we might develop. It might, for example, determine how intelligent we could become. But genotype alone does not determine who or what we become. Our phenotype refers to how our characteristics are expressed. Someone might, for example, have the potential to grow quite tall. But the environment and other forces, such as nutrition, may influence how much of that genotype potential for height is realized. Phenotypes, then, are the product of both genetic and environmental influences.

# MULTIPLE CHOICE

21 : Heredity is defined as
A : the biological transmission of traits and characteristics that is passed from parent to child by means of genes.
B : the spiral shaped structures found in cells.
C : traits that are determined by pairs of genes.
D : the process of cell division.

Correct Answer : A

22 : The branch of biology that studies heredity is called
A : etiology.
B : genetics.
C : molecular biology.
D : gametogenesis.

Correct Answer : B

23 : Genetics appears to play a role in not only the transmission of physical traits, such as height and eye color, but also in
A : ones willingness to work hard to achieve their goals.
B : personality traits such as shyness and anxiety.
C : socioeconomic status.
D : culture.

Correct Answer : B

24 : Heredity means
A : thebiological transmission of traits and characteristics from one generation to another.
B : how your traits manifest themselves in your characteristics.
C : how cells divide to determine who we become.
D : how genes combine to influence our phenotype.

Correct Answer : A

25 : Chromosomes contain thousands of segments called
A : nuclei.
B : genes.
C : phosphates.
D : cytosines.

Correct Answer : B

26 : What shape best describes most chromosomes?
A : Cone
B : Rod
C : An X
D : An octagon

Correct Answer : B

27 : A normal human cell contains _____ chromosomes organized into _____ pairs.
A : 20; 10
B : 32; 16
C : 46; 23
D : 48; 24

Correct Answer : C

28 : Some traits, such as blood type, are transmitted by a single pair of genes. Other traits are determined by combinations of pairs of genes. These traits are called
A : monogenic.
B : polygenic.
C : multigenic.
D : recessive.

Correct Answer : B

29 : Polygenic traits
A : are transmitted by a single pair of genes.
B : are uncommon in humans.
C : are transmitted by the mother.
D : come from the combination of more than one gene.

Correct Answer : D

30 : Research into the human genome has found that human beings have _____ genes in every cell of their bodies.
A : 1,000-1,500
B : 10,000-20,000
C : 20,000-25,000
D : 40,000-50,000

Correct Answer : C

31 : A DNA molecule most closely resembles
A : a twisting ladder.
B : a straight ladder.
C : an octagon.
D : interlocking circles.

Correct Answer : A

32 : In DNA, the sides of the ladder consist of alternating segments of phosphate and
A : adenine.
B : thymine.
C : cytosine.
D : simple sugar.

Correct Answer : D

33 : Which of these is the smallest?

A : A gene
B : The DNA helix
C : A cell
D : A zygote

Correct Answer : A

34 : In DNA, adenine is paired with ____ and cytosine with ____.
A : thymine; simple sugar
B : thymine; guanine
C : guanine; simple sugar
D : guanine; thymine

Correct Answer : B

35 : Each cell in our body
A : contains 26 chromosomes.
B : is turned on or off by cytosine.
C : contains 20,000 to 25,000 genes.
D : is capable of reproducing an infinite number of times.

Correct Answer : C

36 : Of the 46 chromosomes in a normal human cell, how many are contributed by the mother?
A : All
B : It depends upon the gender of the child.
C : Twenty-three
D : None

Correct Answer : C

37 : Of the 46 chromosomes in a normal human cell, how many are contributed by the father?
A : All
B : It depends upon the gender of the child.
C : Twenty-three
D : None

Correct Answer : C

38 : Which of the following MOST accurately describes what genes do?
A : Regulate the development of traits.
B : Determine the gender of the child.
C : Work together with lutein to influence development.
D : Hardwire people for certain levels of certain traits.

Correct Answer : A

39 : DNA consists of all of the following EXCEPT
A : phosphate.
B : indolamine.
C : cytosine.
D : guanine.

Correct Answer : B

40 : DNA stands for
A : deoxyribonucleic acid.
B : dionyotic acetate.
C : diophosphate nucleic acetone.
D : dionucleic acid.

Correct Answer : A

41 : Through the process of ____, our genetic code is carried into new cells in our bodies.
A : mutation
B : autosome replacement
C : Mendel replication
D : mitosis

Correct Answer : D

42 : The process of mitosis results in new cells containing identical genetic codes. That is, unless what occurs?
A : Reduction division
B : Cell death
C : Mutations
D : Neural pruning

Correct Answer : C

43 : Sperm and ova are produced through meiosis, otherwise known as
A : cloning.
B : mutation.
C : cross-fertilization.
D : reduction division.

Correct Answer : D

44 : Of the 23 pairs of chromosomes, 22 pairs look alike and possess genetic information concerning the same traits. These are
A : sex chromosomes.
B : identical chromosomes.
C : autosomes.
D : alleles

Correct Answer : C

45 : What factor determines the sex of a child?
A : The sex chromosome received from the father
B : The time in the ovulation cycle conception occurs
C : The age of the mother
D : The presence or absence of teratogens at the time of conception

Correct Answer : A

46 : The typical sex chromosome pattern for males is ____ and for females is _____.

A : XX; XY
B : XY; XX
C : XYY; XX
D : XYY; XY

Correct Answer : B

47 : If a woman produced two ova in the same month and these are fertilized by different sperm cells, the result is
A : monozygotic twins.
B : dizygotic twins.
C : homozygous twins.
D : a single pregnancy.

Correct Answer : B

48 : A zygote that divides into two genetically identical replicas is called
A : monozygotic twins.
B : dizygotic twins.
C : cross-fertilization.
D : mitosis.

Correct Answer : A

49 : Of twin pregnancies, how many of these are dizygotic twins?
A : One-half
B : One-third
C : Two-thirds
D : One-fourth

Correct Answer : C

50 : Which statement is MOST accurate about monozygotic twins?
A : They are also called fraternal twins.
B : They result when two eggs are fertilized.
C : They occur with different frequency in different ethnic groups.
D : They are more common in older women.

Correct Answer : D

51 : Which statement about monozygotic twins is FALSE?
A : Monozygotic twins usually include one male and one female child.
B : Monozygotic twins are also called identical twins.
C : Monozygotic twins are more common now than in the past.
D : Monozygotic twins occur with equal frequency among all ethnic groups.

Correct Answer : A

52 : Which statement about dizygotic twins is MOST accurate?
A : They are more common among African Americans than any other ethnic or racial group.
B : They are more common among Asian Americans.
C : They are more common among European Americans.
D : They occur with equal frequency among all ethnic and racial groups.

Correct Answer : A

53 : A woman who gives birth to dizygotic twins
A : is most likely an Asian American.
B : has a decreased chance of subsequent pregnancies.
C : is likely to be a young mother.
D : has an increased chance of giving birth to twins in future pregnancies.

Correct Answer : D

54 : The chance of conceiving twins increases with parental age due to _____ and _____.
A : irregular ovulation; the use of fertility drugs
B : irregular sperm; the use of fertility drugs
C : irregular ovulation; irregular sperm
D : irregular sperm; genetic irregularities in ovum

Correct Answer : A

55 : Each member of a pair of genes is referred to as a(n)
A : homozygous trait.
B : heterozygous trait.
C : autosome.
D : allele.

Correct Answer : D

56 : Gregor Mendel, in his work with pea plants, discovered that the offspring from crossing purebred tall pea plants with purebred dwarf pea plants were tall. Mendel called this the law of
A : codominance.
B : dominance.
C : dominant autosomes.
D : epigenesist.

Correct Answer : B

57 : If a child receives a dominant allele for brown hair from one parent and a recessive allele for blonde hair from the other, what do we know?
A : The child will have blonde hair.
B : We cannot predict the potential hair color of the child based upon this information.
C : The child will have brown hair.
D : The child will be female.

Correct Answer : C

58 : If a child receives an allele for blue eyes and an allele for brown eyes, then the child is
A : going to have blue eyes.
B : homozygous for that trait.
C : heterozygous for that trait.
D : exhibiting the law of recession.

Correct Answer : C

59 : About what percent of the offspring of brown-haired parents who carry recessive genes for blonde hair will have blond hair?
A : 25%
B : 50%
C : 75%
D : 100%

Correct Answer : A

60 : Dominant alleles
A : will cause characteristics in individuals when paired with recessive alleles.
B : come from the father of the developing child.
C : cannot determine physical characteristics.
D : will determine physical characteristics only in offspring of the same sex as the parent that contributed that trait.

Correct Answer : A

61 : Carriers of certain genetic characteristics can pass that gene on
A : even if the other parent has a dominant gene for the same characteristic.
B : characteristics in the environment activate it.
C : they are male.
D : they also have a dominant gene for the same characteristic.

Correct Answer : A

62 : Some examples of recessive traits include blonde hair, lactose intolerance, myopia, and
A : curly hair.
B : type O blood.
C : type A blood.
D : farsightedness.

Correct Answer : B

63 : Jake carries a dominant trait for normal vision and a recessive trait for red-green color blindness (or protanopia). As a result, Jake will have
A : farsighted vision.
B : nearsighted vision (myopia).
C : red-green color blindness.
D : normal vision.

Correct Answer : D

64 : Someone suffering from cystic fibrosis
A : carries it as a recessive gene.
B : suffer from an inability to produce mucus.
C : has more than 23 chromosomal pairs.
D : is likely to have a younger mother.

Correct Answer : A

65 : The following is caused by a single pair of genes
A : cystic fibrosis.

B : Down syndrome.
C : sex-linked chromosomal abnormalities.
D : Crohns disease.

Correct Answer : A

66 : Diabetes mellitus, epilepsy, and peptic ulcers are multifactorial problems. That means that they
A : have unknown causes.
B : are the result of genetics.
C : are the result of factors in the persons environment.
D : reflect genetic and environmental causes.

Correct Answer : D

67 : Dev is 45 years old. Compared to men who are below the age of 30, Dev is five to six times more likely to have a child with
A : red-green color blindness.
B : Turners syndrome.
C : cystic fibrosis.
D : autistic disorders

Correct Answer : D

68 : There is a positive correlation between age of parents and incidence of Down syndrome. What does this mean?
A : Younger parents are more likely to have children with Down syndrome.
B : Older parents are more likely to have children with Down syndrome.
C : Older parents are less likely to have children with Down syndrome.
D : All parents, regardless of their age, are equally likely to have children with Down syndrome.

Correct Answer : B

69 : Individuals with Down syndrome
A : do not typically suffer adjustment problems.
B : have few, if any, physical problems.
C : show deficits in cognitive development.
D : have chromosomal damage on the eighth chromosome.

Correct Answer : C

70 : Down syndrome is linked to
A : alcohol abuse by the father.
B : abnormalities of the 21st pair of chromosomes.
C : sex-linked chromosomal abnormalities.
D : the teratogenic effects of contracting rubella during pregnancy.

Correct Answer : B

71 : The textbook suggests that XYY males are over-represented in prison populations. This suggests that
A : they may be less intelligent than normal.
B : they are much less aggressive than is normal.

C : they commit more crimes against persons, not property.
D : more people with XYY chromosomal patterns come from non-dominant (minority) groups.

Correct Answer : A

72 : Males with XYY sex chromosomal structure
A : tend to be shorter than average.
B : have higher levels of intelligence than average.
C : are often mildly delayed, such as in language development.
D : are much less aggressive than average.

Correct Answer : C

73 : What is the approximate rate of occurrence of males who have an extra Y chromosome, resulting in the configuration XYY?
A : Zero, because this disorder affects females only
B : One in 50 to 70
C : One in 700 to 1,000
D : One in 3

Correct Answer : C

74 : In comparison to the average male population, individuals with Klinefelter syndrome produce
A : more estrogen than normal.
B : less estrogen than normal.
C : more testosterone than normal.
D : less testosterone than normal.

Correct Answer : D

75 : What is the incidence, or rate of occurrence, of Klinefelter syndrome?
A : 1 in 150 women
B : 1 in 300 men
C : 1 in 500 men
D : 1 in 2,500 women

Correct Answer : C

76 : Roger is undergoing treatment for a sex-linked chromosomal abnormality. He is treated with testosterone replacement therapy, which fosters the growth of male sex characteristics and elevates his mood, but does not reverse his infertility. Roger is being treated for
A : Klinefelter syndrome.
B : Turner syndrome.
C : Supermale syndrome.
D : Down syndrome.

Correct Answer : A

77 : A girl who does not develop breasts or menstruate
A : likely produces low levels of testosterone.
B : may have only one Y sex chromosome.
C : may have Turner syndrome.

D : should be screened for Klinefelter syndrome.

Correct Answer : C

78 : Girls with Turner syndrome
A : are physically the same as girls who do not have Turners syndrome.
B : produce little estrogen.
C : produce more testosterone than normal.
D : are more likely to give birth to twins.

Correct Answer : B

79 : Compared to girls with XY sex chromosomes, girls with Turner syndrome
A : have an extra X sex chromosome.
B : have an extra Y sex chromosome.
C : are taller than average.
D : have a single X sex chromosome.

Correct Answer : D

80 : Anya is female. She is infertile and has trouble with visual-spatial skills and mathematics, and also struggles with her nonverbal memory. She most likely has
A : Turner syndrome.
B : Single X syndrome.
C : Triple Y syndrome.
D : Superfemale syndrome.

Correct Answer : A

81 : What outcome is likely if both parents are carriers of PKU?
A : One child out of four will develop the disorder.
B : None of the children will develop the disorder.
C : Their daughters are more likely to develop the disorder than their sons.
D : All of their children will develop the disorder.

Correct Answer : A

82 : Phenylketonuria is
A : an enzyme disorder.
B : transmitted by a dominant gene.
C : a disorder that manifests itself in all children of carriers.
D : an illness that can only occur in boys.

Correct Answer : A

83 : Children with PKU
A : cannot eat fruits or vegetables.
B : have damage to the 21st pair of chromosomes.
C : should be placed on a special diet at soon as possible after birth.
D : usually live for only a few weeks.

Correct Answer : C

84 : Children with PKU cannot metabolize an amino acid called phenylalanine. As a result, the substance builds up in their bodies and
A : causes them to be overweight.
B : causes night blindness.
C : causes hemophilia.
D : impairs central nervous system functioning.

Correct Answer : D

85 : Maria and Michael have just been told that their newborn child has tested positive for PKU. What does this mean?
A : The condition can be cured through medication.
B : The illness can be controlled through a strict exercise regimen.
C : The condition will disappear by the time their child is six months old.
D : Their child can develop normally if placed on a special diet early.

Correct Answer : D

86 : Huntington disease is a fatal, progressive degenerative disorder. People who have Huntington disorder
A : must have special diets.
B : are common, as the rate of this genetic disorder is very high.
C : usually have delayed onset of this disorder until middle adulthood.
D : use medications that cure the disorder.

Correct Answer : C

87 : Huntington disease is characterized by which of the following symptoms?
A : Uncontrollable muscle movements
B : Savant syndrome
C : The inability to speak
D : Mucous buildup in the lungs

Correct Answer : A

88 : Which of the following individuals would be most likely to develop sickle-cell anemia?
A : A Caucasian female under the age of 15
B : An African American
C : A Caucasian male of any age
D : A person of Asian heritage

Correct Answer : B

89 : Sickle-cell anemia is caused by
A : white blood cells that take on the shape of a sickle and clump together.
B : red blood cells that expand the blood vessels and increase the oxygen supply.
C : a recessive gene.
D : a slow destruction of the liver leading to jaundice and swollen joints.

Correct Answer : C

90 : Which incidence rate most accurately represents the percentage of African Americans who are carriers of sickle-cell anemia?

A : 1 in 5
B : 1 in 10
C : 1 in 20
D : 1 in 100

Correct Answer : B

91 : Tia is from Central America. She has a genetic disorder caused by a recessive gene. Her symptoms include impaired cognitive skills caused by decreased oxygen supply, painful joints, and jaundice. Tia has
A : sickle-cell anemia.
B : Tay-Sachs disease.
C : cystic fibrosis.
D : PKU.

Correct Answer : A

92 : Which statement is TRUE of Tay-Sachs disease?
A : It results in delayed blood clotting.
B : It is characterized by degeneration of the central nervous system.
C : It is caused by a dominant gene.
D : It is linked to the X chromosome.

Correct Answer : B

93 : Which of the following individuals is MOST likely to have Tay-Sachs disease?
A : A 2-year-old Jewish child of Eastern-European background
B : A 10-year-old African American
C : A 5-year-old European American
D : A 20-year-old Hispanic male

Correct Answer : A

94 : Which of the following children (male or female) is LEAST likely to have Tay-Sachs disease?
A : An 8-year-old
B : A 4-year-old
C : A 2-year-old
D : A 1-year-old

Correct Answer : A

95 : Tay-Sachs disease results in
A : death, usually by 5 years of age.
B : painful and swollen joints.
C : thick mucus that clogs the pancreas and lungs.
D : a lethal buildup of amino acids in the blood.

Correct Answer : A

96 : People who bear one dominant and one recessive gene for a trait are
A : going to automatically pass that characteristic on to their offspring.
B : definitely going to develop that characteristic.

C : called carriers of the recessive gene.
D : not going to pass that characteristic on to their offspring.

Correct Answer : C

97 : According to the Cystic Fibrosis Foundation,
A : cystic fibrosis is the most common fatal hereditary disease among European Americans.
B : about 60,000 Americans have the disorder.
C : 1 in every 11 people is carriers of this illness.
D : cystic fibrosis is more common in European American individuals than any other group.

Correct Answer : D

98 : Elliot was born with a genetic disorder that is caused by a recessive gene. His symptoms are thick mucus that clogs his pancreas and lungs. He has many respiratory infections. Elliot most likely has
A : Huntington disease.
B : Tay-Sachs disease.
C : cystic fibrosis.
D : PKU.

Correct Answer : C

99 : Sex-linked diseases are more likely to afflict sons of female carriers because
A : males inherit two X chromosomes from their mothers.
B : males have only one X sex chromosome.
C : sex-linked disorders are recessive in fathers.
D : it is carried only on the Y chromosome.

Correct Answer : B

100 : Which is true of hemophilia?
A : It is more likely to afflict sons of female carriers than daughters.
B : It occurs more often in Caucasians than other racial and ethnic groups.
C : It damages the frontal lobe of the brain.
D : It often co-occurs with Down syndrome.

Correct Answer : A

101 : Color blindness is
A : an enzyme disorder.
B : a protein-based disorder.
C : a sex-linked abnormality.
D : found only in females.

Correct Answer : C

102 : Color blindness is more likely to occur in
A : males.
B : females.
C : various people, depending upon racial and ethnic background.
D : those people with higher socioeconomic status.

Correct Answer : A

103 : Which of the following is NOT a sex-linked abnormality?
A : Duchenne muscular dystrophy
B : Hemophilia
C : Color blindness
D : Down syndrome

Correct Answer : D

104 : Females are less likely than males to show sex-linked disorders because females
A : have higher levels of estrogen.
B : do not inherit recessive genes.
C : have an additional X chromosome.
D : have higher levels of testosterone.

Correct Answer : C

105 : Genetic counseling occurs ____; prenatal testing happens ____.
A : after a woman is pregnant; before a woman is pregnant
B : before a woman is pregnant; while a woman is pregnant
C : before conception; before conception
D : after conception; after conception

Correct Answer : B

106 : The primary purpose of genetic counseling is to
A : advise couples to abort unborn children.
B : prove that a child will develop a certain illness.
C : assist potential parents in making procreation decisions.
D : outline the genetic risks of unprotected sex.

Correct Answer : C

107 : A couple is deciding whether or not to try and conceive a child. They meet with a health professional who asks them questions regarding their genetic heritage in order to explore whether their child might develop genetic abnormalities. This process is called
A : prenatal testing.
B : genetic counseling.
C : chorionic villus sampling.
D : adoption counseling.

Correct Answer : B

108 : The following person is MOST likely to be given an amniocentesis
A : an African-American female.
B : an Asian-American female.
C : a female younger than age 20.
D : a female over the age of 35.

Correct Answer : D

109 : With amniocentesis,

A : a biopsy is taken from the pregnant mothers spine.
B : fluid is tested from the sac containing the fetus.
C : the fathers sperm is tested for genetic abnormalities.
D : the mothers ova are tested for genetic abnormalities.

Correct Answer : B

110 : The biggest drawback to amniocentesis is that it can cause
A : miscarriages in 1 of every 100 women who undergo the procedure.
B : Cesarean deliveries.
C : mental retardation.
D : the unborn child to be infertile.

Correct Answer : A

111 : Amniocentesis is encouraged for
A : women over the age of 25.
B : women carrying the children of aging fathers.
C : women, or their partners, who have family histories of monozygotic or dizygotic twins.
D : women who are carrying their first pregnancy.

Correct Answer : B

112 : The earliest detection of fetal abnormalities is possible with the use of
A : amniocentesis.
B : ultrasound.
C : chorionic villus sampling.
D : fetoscopy.

Correct Answer : C

113 : Molly is in her 10th week of pregnancy. She is undergoing a procedure in which small threads are removed from the outer membrane that envelops the amniotic sac and fetus. Which procedure is she undergoing?
A : Cervical variability study
B : Chorionic villus sampling
C : Ultrasound sonography
D : Amniocentesis

Correct Answer : B

114 : Which of the following is TRUE regarding amniocentesis and CVS?
A : The risks of spontaneous abortion are higher with CVS than with amniocentesis.
B : Both are performed 14 to 16 weeks after conception.
C : Any trained practitioner can carry out the procedures with equal skill.
D : Both involve the examination of villi from the membrane that envelops the amniotic sac and fetus.

Correct Answer : C

115 : An ultrasound
A : uses x-ray photography to make a picture of the unborn child.
B : can be heard by the human ear.

C : yields a picture called a CT-scan.
D : bounces sound waves off of the fetus.

Correct Answer : D

116 : A sonogram is produced by using
A : ultrasound.
B : fetoscopy.
C : chorionic villus sampling.
D : amniocentesis.

Correct Answer : A

117 : Ultrasound can be used to detect
A : Klinefelter syndrome.
B : cystic fibrosis.
C : PKU.
D : position of the fetus.

Correct Answer : D

118 : Mias fetus has Rh disease, and an intrauterine transfusion is necessary. Which of the following procedures will generate a picture of the fetus to determine fetal positioning and fetal structures?
A : Ultrasound
B : CVS
C : AFP assay
D : Amniocentesis

Correct Answer : A

119 : The prenatal screening procedure that poses LEAST risk to the fetus is
A : amniocentesis.
B : genetic counseling.
C : chorionic villus sampling.
D : alpha-fetoprotein assay (AFP).

Correct Answer : D

120 : ____ is used to detect neural tube defects such as spina bifida.
A : Genetic counseling
B : Alpha-fetoprotein assay (AFP)
C : Ultrasound
D : Rh disease test

Correct Answer : B

121 : Alpha-fetoprotein assay (AFP) can be used to
A : assess sex chromosome abnormalities.
B : detect neural tube defects.
C : assess degree of mental retardation.
D : measure insulin levels in the fetus.

Correct Answer : B

122 : If a mother has an elevated AFP level, this means her fetus
A : has a neural tube defects.
B : may have neural tube defects and this would be examined by amniocentesis or ultrasound.
C : has a sex-linked disorder.
D : will be born early.

Correct Answer : B

123 : Of the following, the accurate statement is
A : there is no risk associated with fetal testing.
B : although there is some risk with fetal testing, it is sometimes necessary.
C : because of risk, fetal testing should not be done.
D : the risk in fetal testing is to the mother, not the fetus.

Correct Answer : B

124 : Our inherited traits can vary in expression given our unique environments. This is referred to as
A : reaction range.
B : phenotype.
C : genotype.
D : averaging of genetic instructions carried by ones parents.

Correct Answer : A

125 : Charlotte inherited personality traits, such as her activity and sociability levels, from her parents. Traits we inherit from our parents are referred to as our
A : phenotype.
B : temperament.
C : genotype.
D : personality.

Correct Answer : C

126 : Theo not only inherited a tendency to be of very high intelligence from his parents, but on IQ tests, he scores very high. Our actual set of traits that we exhibit, such as an excellent performance on an IQ test, is called
A : phenotype.
B : temperament.
C : genotype.
D : personality.

Correct Answer : A

127 : Because Sebastian lacks access to healthy food, he may not grow to be as tall as he could. However, if healthy food becomes available, his body may snap back into its genetically determined path. What is the term used to describe this process?
A : Canalization
B : Invariant development
C : Chromosomalization
D : Genotype expression

Correct Answer : A

128 : Which of the following is LESS highly canalized?
A : Learning to sit up
B : Learning to crawl
C : Learning to speak two-word utterances
D : Intelligence

Correct Answer : D

129 : Developmental psychologist Sandra Scarr described three types of correlations between genetic and environmental influences. These are passive correlation, active correlation, and ____ correlation.
A : ongoing
B : evocative
C : restrictive
D : inherent

Correct Answer : B

130 : Nicole is a long-distance runner. She believes in the importance of proper diet and exercise. As such, she provides a healthy diet for her two-year-old daughter, enrolls her in toddler gymnastic classes, and encourages her daughters outdoor physical activities. Which of the following genetic-environment correlations does this BEST represent?
A : Passive
B : Evocative
C : Active
D : Industrious

Correct Answer : A

131 : Elijah is very shy. He is quiet and rarely seeks out other children to play with. His parents, teachers, and friends leave him alone to play and spend time by himself. Which genetic-environment correlation does this best represent?
A : Passive
B : Evocative
C : Active
D : Industrious

Correct Answer : B

132 : Jenny is a high school freshman. She has always enjoyed playing musical instruments. As a result, she decides to join the marching band at her school as well as take a class in music theory. Which of the following genetic-environment correlations does this best represent?
A : Passive
B : Evocative
C : Active
D : Industrious

Correct Answer : B

133 : Matthew likes to sing, dance, and act. Due to this, he decided to join the theatre club at his

high school. Choosing environments that allow us to develop inherited preferences is termed
A : niche-picking.
B : epigenesist.
C : ecological interaction.
D : evocative genotype.

Correct Answer : A

134 : Which of the following is TRUE regarding parents and their children?
A : They share about 50% of their genetic material.
B : They share recessive genes only.
C : They share dominant genes only.
D : They share about 25% of their genetic material.

Correct Answer : A

135 : If genes are implicated in any given physical trait or behavior pattern, then you would expect that
A : DZ twins would be more similar on the trait than MZ twins.
B : all people in a given family would express the trait similarly.
C : cousins would be more similar on the trait than siblings.
D : siblings would be more similar on the trait than cousins.

Correct Answer : D

136 : The following twin pair would physically resemble each other the most
A : dizygotic of either sex.
B : monozygotic.
C : dizygotic males.
D : monozygotic, but only if female.

Correct Answer : B

137 : In comparison to dizygotic (DZ) twins, monozygotic (MZ) twins are
A : less likely to look alike or be of similar height.
B : more likely to be similar on physical characteristics, such as blood pressure and brain wave patterns.
C : less likely to share the same psychological disorders.
D : more likely to differ on levels of happiness and sociability.

Correct Answer : B

138 : What could influence behavioral similarity in monozygotic twins?
A : Parents and others who treat them alike
B : The degree of genetic similarity they share
C : Whether the twins are male or female
D : No factors in particular will influence behavioral similarity.

Correct Answer : A

139 : Dizygotic twins are MORE likely to inherit ____ than monozygotic twins.
A : more likely to inherit schizophrenia
B : more likely to inherit depression

C : more likely to inherit autism
D : less likely to inherit disorders

Correct Answer : D

140 : Kia and Mia are monozygotic twins. At birth, they were separated and adopted by different families. Kia grew up in Los Angeles. Mia grew up in New York City. Given the research, you would expect Kia and Mia to
A : share the same degree of genetic similarity as twins reared together.
B : be less alike, genetically, than dizygotic twins reared together.
C : be identical in genetics, behaviors and preferences.
D : be no more alike in genetics, behaviors and preferences than regular siblings.

Correct Answer : A

141 : If an adopted child is more similar on a particular characteristic to his/her biological parents than to the adoptive parents, we can conclude that
A : the adoptive parents have tried very hard to raise the child as their own.
B : heredity is solely responsible for who we become.
C : environment is solely responsible for who we become.
D : genetics play a role in the development of that particular characteristic.

Correct Answer : D

142 : At birth, the typical human female will contain
A : enough ova to be fertile for 10 years.
B : no ova, they only develop during puberty.
C : around 300,000 to 400,000 ova in each ovary.
D : millions of ova.

Correct Answer : C

143 : During menstruation,
A : a female is more likely to get pregnant than at any other time.
B : the unfertilized egg is discharged in menstrual flow.
C : the fertilized egg undergoes meiosis.
D : the fertilized egg undergoes mitosis.

Correct Answer : B

144 : Before meiosis, the sperm cell,
A : contains 46 chromosomes.
B : is significantly larger than the egg cell.
C : contains two X chromosomes.
D : is more likely to conceive a girl than a boy.

Correct Answer : A

145 : The sperm cell
A : is significantly larger than the egg cell.
B : contains two Y chromosomes.
C : does not determine the sex of the developing child.
D : is one of the smallest types of cells in the body.

Correct Answer : D

146 : The following can be said about male conception:
A : fewer males are conceived, but more survive to birth.
B : more males are conceived and more survive to birth.
C : more males are conceived and more are spontaneously aborted.
D : about the same number of males and females are conceived.

Correct Answer : C

147 : About how many sperm cells are contained in a single ejaculate?
A : Around 1,000
B : 200 to 400 million
C : 500,000 to 1 million
D : Depends upon the mans progesterone levels

Correct Answer : B

148 : Ova
A : are surrounded by a gelatinous layer.
B : do not have a gelatinous layer.
C : are surrounded by a gelatinous layer but only after released from the ovarian follicle.
D : develop a gelatinous layer after a sperm has penetrated the ovum.

Correct Answer : A

149 : Sperm
A : travel at random inside a womans reproductive tract.
B : find ovum as a matter of luck.
C : are attracted to ova by the odor of a chemical they secrete.
D : are attracted to ova by a sound wave they emit.

Correct Answer : C

150 : Conception has occurred when
A : the egg cell is released from the ovary.
B : the sperm cell is released from the testis.
C : the chromosomes from the egg cell align with those from the sperm cell.
D : the chromosomes combine to form 23 new pairs with a unique set of genetic instructions.

Correct Answer : D

151 : In American couples, infertility occurs in approximately
A : one in 6 or 7 couples.
B : one in 15 couples.
C : it depends upon ethnicity.
D : it depends upon socioeconomic status.

Correct Answer : A

152 : What can cause infertility problems in men?
A : Excess protein in the diet

B : Lack of exercise
C : Sexually transmitted infections (STIs)
D : Excessive masturbation

Correct Answer : C

153 : The sperms ability to move is called
A : involution.
B : propulsion.
C : evolution.
D : motility.

Correct Answer : D

154 : What can cause infertility in women?
A : Obstruction of the reproductive tract
B : Regular ovulation
C : A urinary tract infection
D : Precocious puberty

Correct Answer : A

155 : The MOST common infertility problem in women is
A : irregular ovulation or lack of ovulation.
B : endometriosis.
C : barriers to the passageways through which the ovum must pass.
D : pelvic inflammatory disease (PID).

Correct Answer : A

156 : Lily visits her doctor to determine the cause/s of her infertility. The physician tells her that she has endometriosis and that this is caused by
A : irregular ovulation or lack of ovulation.
B : chronic disease, such as diabetes.
C : endometrial tissue that has been sloughed off into the abdominal cavity during menstruation.
D : the use of fertility drugs, such as clomiphene or pergonal.

Correct Answer : C

157 : Which of the following describes the process by which sperm is injected into the uterus at the time of ovulation?
A : IVF
B : Artificial insemination
C : Donor IVF
D : Surrogacy

Correct Answer : B

158 : Jill does not produce ova of her own. An ovum is harvested from another woman, is fertilized in vitro, and placed into Jills uterus where it becomes implanted and develops prenatally. Which fertility method does this best represent?
A : Artificial insemination
B : IVF

C : Donor IVF
D : Surrogate mother

Correct Answer : C

159 : Meghan is carrying a newly fertilized ova to term for another woman. Meghan is a(n)
A : sperm donor.
B : adoptive parent.
C : surrogate.
D : IVF donor.

Correct Answer : C

160 : It is estimated that the ratio of boys to girls in China is approximately 120 to 100. Why are there so many more boys than girls in China?
A : Better genetic counseling
B : An increase in the use of fertility drugs
C : Higher rates of adopting boys than girls
D : Selective abortion of female fetuses

Correct Answer : D

# MATCHING

161 : Match the following:

| | |
|---|---|
| A : Spina bifida | A : takes theform of a double helix |
| B : Monozygotic | B : person who carries and transmits characteristics but does not express them |
| C : Deoxyribonucleic acid (DNA) | C : correlation between childs genetic endowment and responses elicited from others |
| D : Meiosis | D : the genetic material received from parents |
| E : Phenotype | E : caused by a recessive gene |
| F : Carrier | F : polygenically determined |
| G : PKU | G : female sex hormone |
| H : Down syndrome | H : neural tube defect |
| I : Huntington disease | I : twins produced from a single egg |
| J : Intelligence | J : cell division that results in non-identical cells |
| K : Dizygotic | K : union of an ovum and a sperm cell |
| L : Evocative genotype-environmental correlation | L : involves the membrane that envelops the amniotic sac and fetus |
| M : Genotype | M : associated with the 21st pair of chromosomes |
| N : Heterozygous | N : how genetic material manifests itself in characteristics |
| O : Estrogen | O : twins produced from two eggs |
| P : Gender of child | P : XXY sex chromosomal pattern |
| Q : Motility | Q : determined by the father |
| R : Chorionic villus sampling | R : differing alleles for a trait |
| S : Conception | S : caused by a dominant gene |
| T : Klinefelter syndrome | T : self-propulsion |

Correct Answer :
A : H

B : I

C : A

D : J

E : A13

F : B

G : E

H : A12

I : A18

J : F

K : A14

L : C

M : D

N : A17

O : G

P : A16

Q : A19

R : A11

S : K

T : A15