Essentials of Anatomy and Physiology 8th edition LaPres Test Bank

SKU: 9781264125722-TEST-BANK

CHAPTER

1

Introduction to the Human Body

Anatomy & Physiology Revealed 4.0

Module 1
Body Orientation

CHAPTER OUTLINE

Selected Key Terms

1.1 Anatomy and Physiology

1.2 Levels of Organization

1.3 Directional Terms

1.4 Body Regions

1.5 Body Planes and Sections

1.6 Body Cavities

1.7 Abdominopelvic Subdivisions

1.8 Maintenance of Life

Clinical Insights and Critical Thinking

SELECTED KEY TERMS

Anatomy (ana = apart; tom = to cut) The study of the structure of living organisms.
Appendicular (append = to hang) Pertaining to the upper and lower limbs.
Axial (ax = axis) Pertaining to the longitudinal axis of the body.
Body region (regio = boundary) A portion of the body with a special identifying name.
Directional term (directio = act of guiding) A term that references how the position of a body part relates to the position of another body part.
Effector (efet = result) A structure that functions by performing an action that is directed by an integrating center.
Homeostasis (homeo = same; sta = make stand or stop) Maintenance of a relatively stable internal environment.
Integrating center (integratus = make whole) A structure that functions to interpret information and coordinate a response.
Metabolism (metabole = change) The sum of the chemical reactions in the body.
Parietal (paries = wall) Pertaining to the wall of a body cavity.
Pericardium (peri = around; cardi = heart) The membrane surrounding the heart.
Peritoneum (ton = to stretch) The membrane lining the abdominal cavity and covering the abdominal organs.
Physiology (physio = nature; logy = study of) The study of the function of living organisms.
Plane (planum = flat surface) Imaginary two-dimensional flat surface that marks the direction of a cut through a structure.
Pleura (pleura = rib) The membrane lining the thoracic cavity and covering the lungs.
Receptor (recipere = receive) A structure that functions to collect information.
Section (sectio = cutting) A flat surface of the body produced by a cut through a plane of the body.
Serous membrane (serum = watery fluid; membrana = thin layer of tissue) A two-layered membrane that lines body cavities and covers the internal organs.
Visceral (viscus = internal organ) Pertaining to organs in a body cavity.

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1.1 Anatomy and Physiology

Learning Objective

1. Define anatomy and physiology.

1. Write the terms that match the phrases in the spaces at the right.
   a) The study of tissues _____
   b) The study of body organization and structure _____
   c) The study of body functions _____

1.2 Levels of Organization

Learning Objectives

2. Describe the levels of organization in the human body.
3. List the major organs and functions for each organ system.

1. List the levels of organization from the most complex to the simplest.
   a) _____ d) _____
   b) _____ e) _____
   c) _____ f) _____
2. Write the terms that match the phrases in the spaces at the right.
   a) A coordinated group of organs. _____
   b) Structural and functional units of the body. _____
   c) An aggregation of similar cells. _____
3. Match the names of the organ systems with the phrases.

Cardiovascular	Integumentary	Nervous
Digestive	Lymphoid	Respiratory
Endocrine	Male Reproductive	Skeletal
Female Reproductive	Muscular	Urinary

   a) Stomach, liver, intestines. _____
   b) Brain, spinal cord, nerves. _____
   c) Secretes hormones. _____
   d) Skin, hair, nails. _____
   e) Returns lymph to blood; provides immunity. _____
   f) Bones, ligaments, cartilages. _____
   g) Contraction enables movement. _____
   h) Transports materials to and from cells. _____

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i) Kidneys, ureters, urinary bladder. _____
j) Testes, penis, prostate. _____
k) Ovaries, uterine tubes, uterus, vagina. _____
l) Blood, heart, arteries, veins. _____
m) Supports the body. _____
n) Secretes hormones that regulate functions. _____
o) Regulates volume of body fluids. _____
p) Protects underlying tissues. _____
q) Rapid coordination of body functions. _____
r) Digests food and absorbs nutrients. _____
s) Gas exchange between air and blood. _____
t) Larynx, trachea, bronchi, and lungs. _____

1.3 Directional Terms

Learning Objective

4. Use directional terms to describe the locations of body parts.

1. Provide the term that correctly completes each statement.
   a) The head is _____ to the neck. _____
   b) The hand is _____ to the wrist. _____
   c) The skin is _____ to the muscles. _____
   d) The mouth is _____ to the nose. _____
   e) The elbow is _____ to the wrist. _____
   f) The ear is on the _____ surface of the head. _____
   g) The umbilicus is on the _____ body surface. _____
   h) The hip is on the _____ body surface. _____
   i) The buttocks are on the _____ body surface. _____

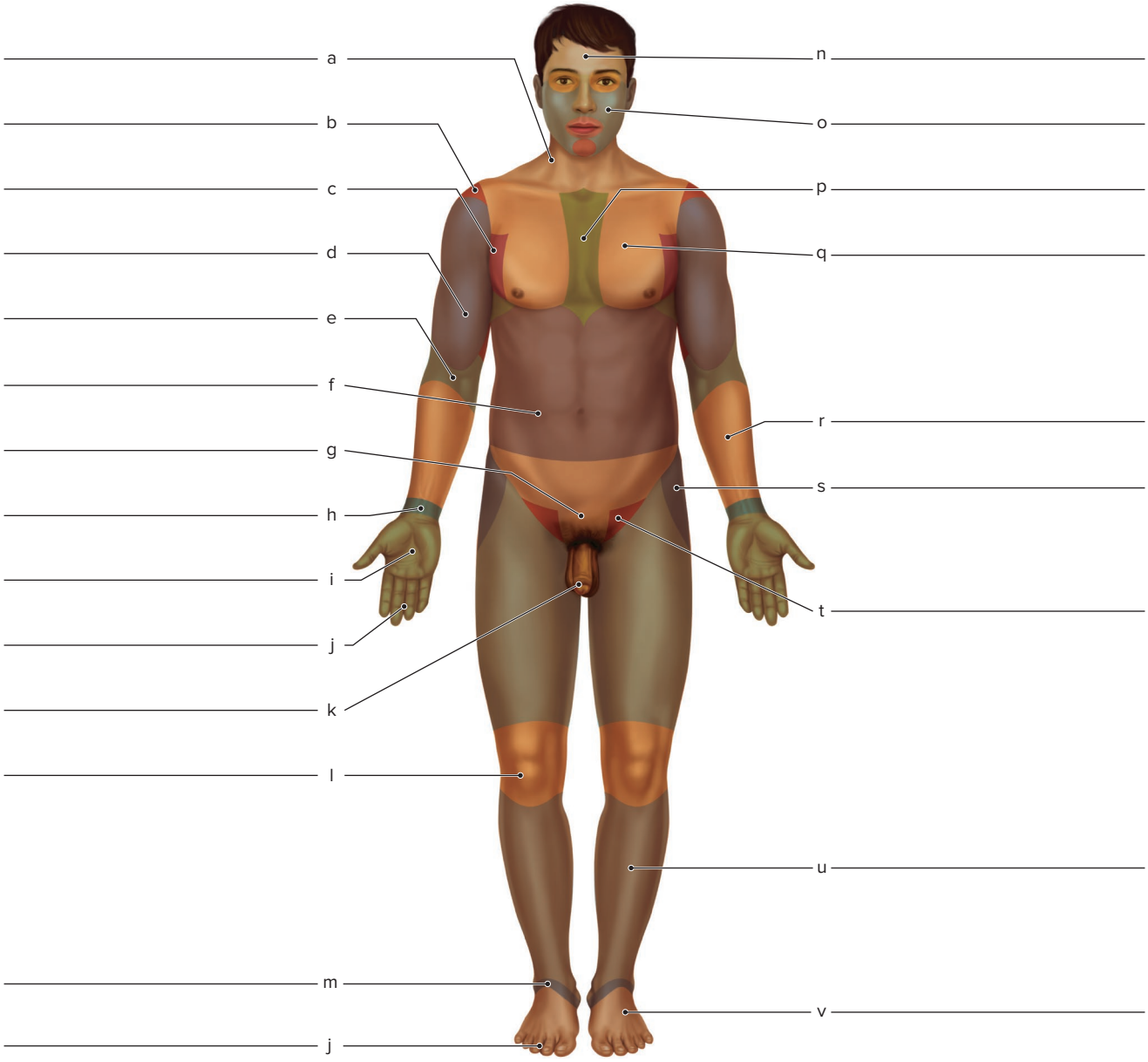
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1.4 Body Regions

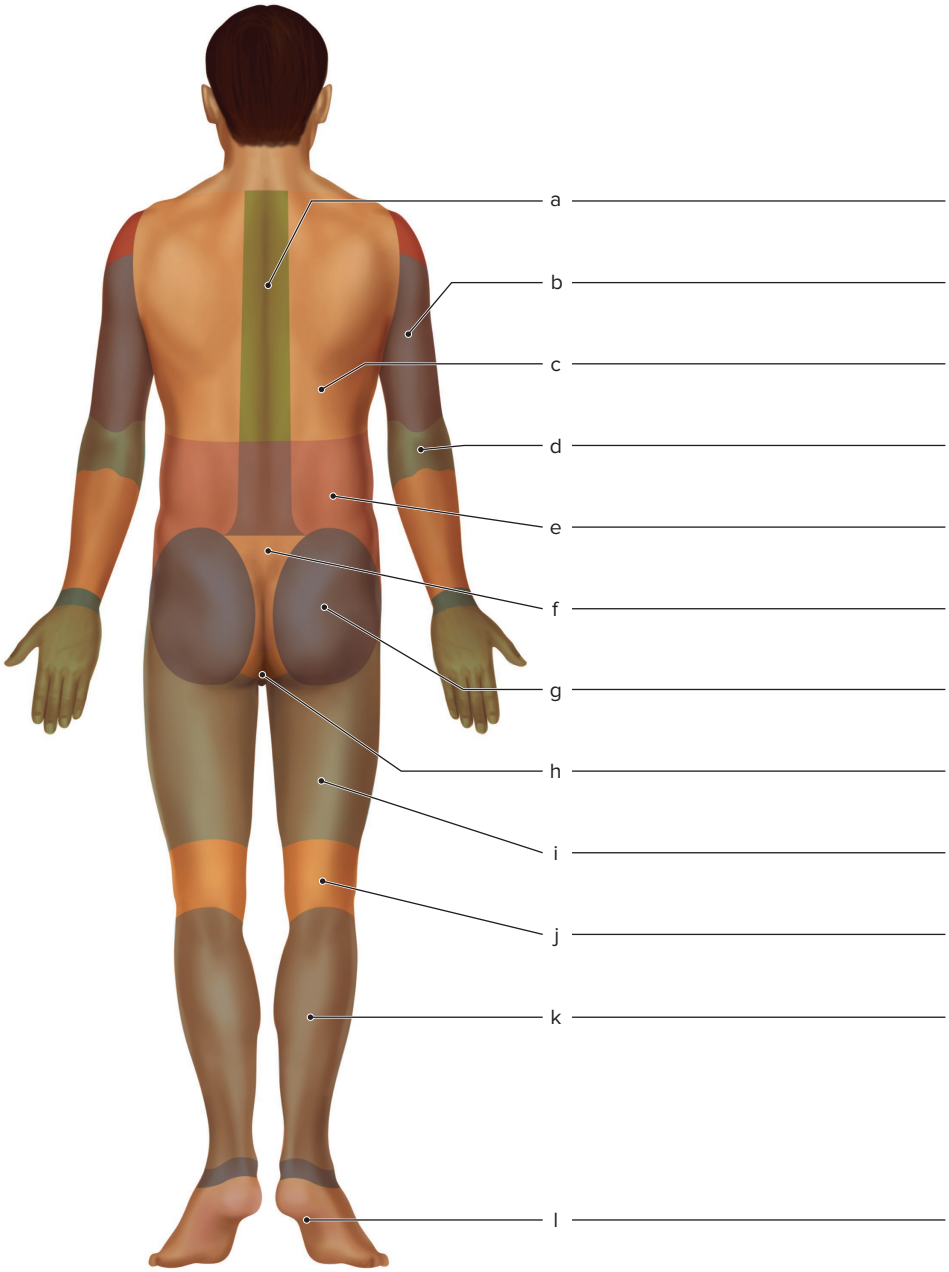
Learning Objective

5. Locate the major body regions on a diagram or anatomical model.

1. Label the body regions by placing the correct term in the space by the correct label. (See text figure 1.4 Major Regions of the Body.) A&PR



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1.5 Body Planes and Sections

Learning Objective

6. Describe the three planes used in making sections of the body or body parts.

1. Name the planes that match the statements.
   a) Divides the body into equal left and right halves. _____
   b) Divides the body into superior and inferior portions. _____
   c) Divides the body into left and right portions. _____
   d) Divides the body into anterior and posterior portions. _____
   e) Any cut along the longitudinal axis of a structure. _____
   f) Any cut at a 90° angle to the longitudinal axis of a structure. _____
   g) A plane between the longitudinal axis and a 90° angle of a structure. _____

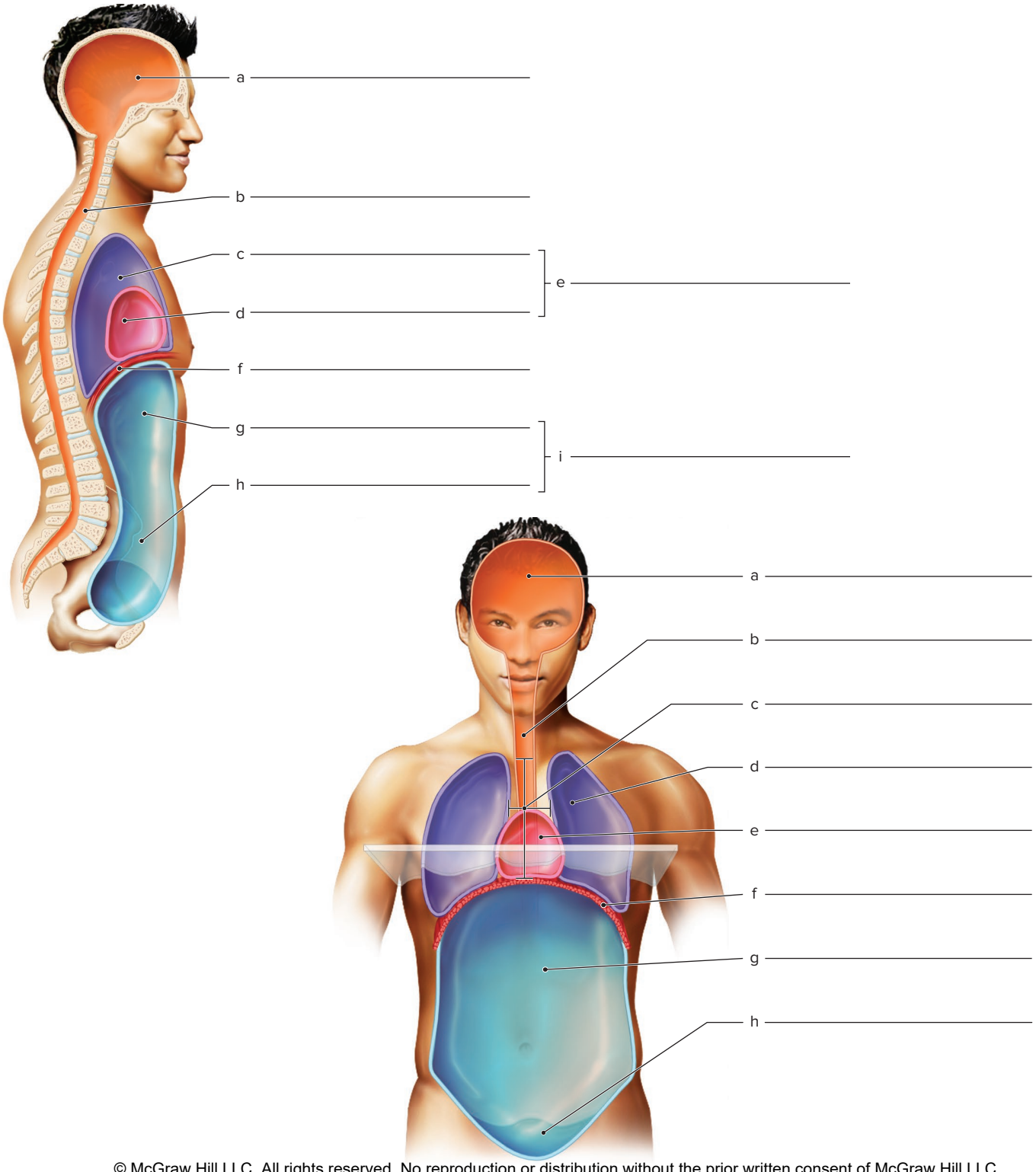
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1.6 Body Cavities

Learning Objectives

7. Locate the body cavities and their subdivisions and membranes on a diagram.
8. Name the organs located in each body cavity.

1. Label the body cavities and related structures by placing the correct term in the space by the correct label. (See text figure 1.6 Body Cavities and Their Subdivisions.) APR



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2. Place the letter of the cavity where the organ is located in the blank beside the organ name. Answers may be used more than once.

a) Abdominal cavity	c) Mediastinum	e) Pleural cavity
b) Cranial cavity	d) Pelvic cavity	f) Vertebral canal
_____ Brain	_____ Lungs	_____ Stomach
_____ Gallbladder	_____ Rectum	_____ Thymus
_____ Heart	_____ Small intestine	_____ Urinary bladder
_____ Liver	_____ Spinal cord	

3. Write the names of the membranes that match the statements in the spaces at the right.

a) Covers the surface of the heart. _____
b) Covers the surface of the stomach. _____
c) Lines the abdominal cavity. _____
d) Surrounds the brain. _____
e) Lines the thoracic cavity. _____
f) Lines the vertebral canal. _____
g) Covers the surface of the lungs. _____
h) Forms double-layered membrane sac around heart. _____
i) Double-layered membranes supporting abdominal organs. _____

1.7 Abdominopelvic Subdivisions

Learning Objectives

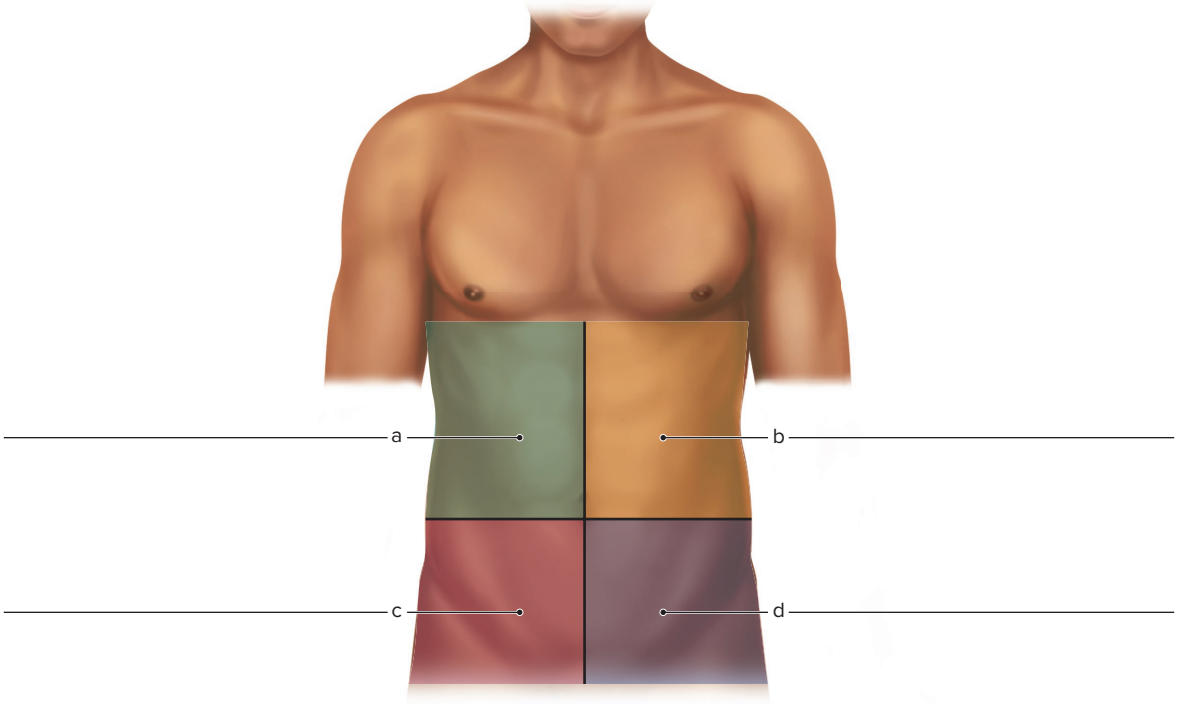
9. Name the abdominopelvic quadrants and regions.
10. Locate the abdominopelvic quadrants and regions on a diagram.

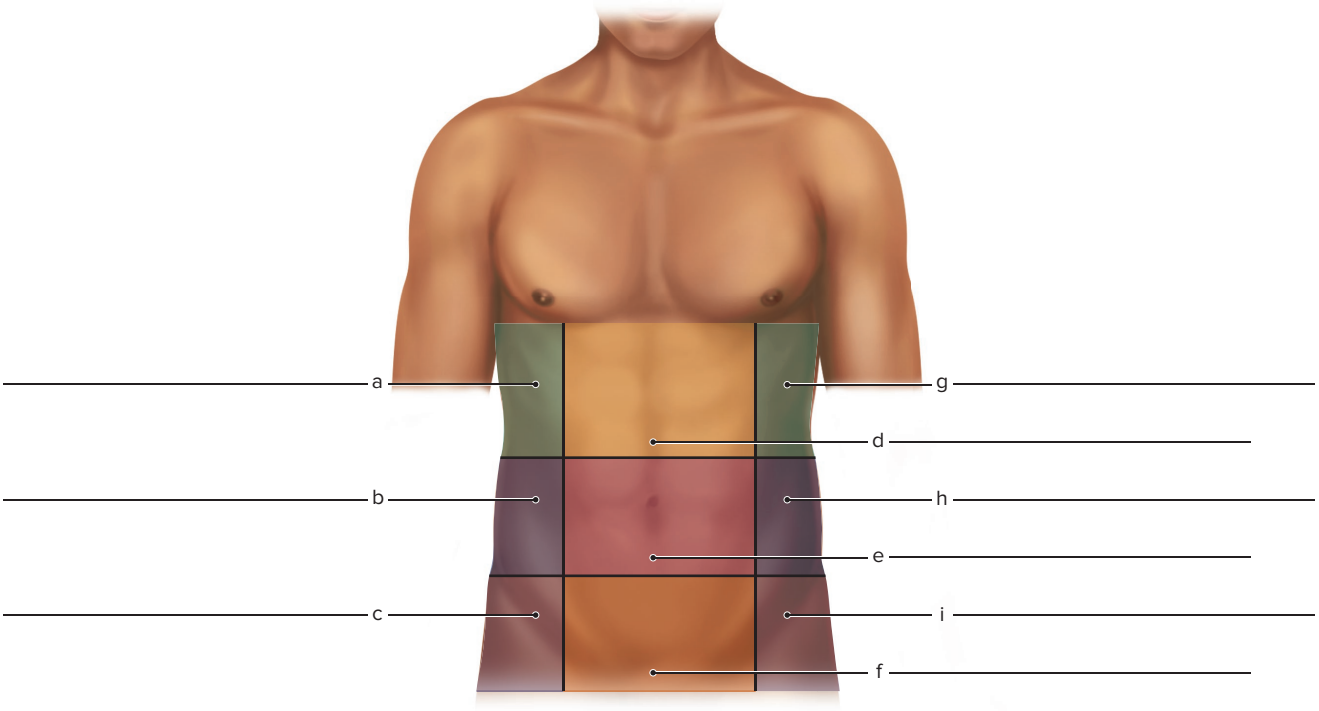
1. Select the abdominopelvic quadrant and abdominopelvic region in which the following structures are located.

Quadrants	**Regions**	
a) Right upper	e) Epigastric	j) Right hypochondriac
b) Left upper	f) Left hypochondriac	k) Right inguinal
c) Right lower	g) Left inguinal	l) Right flank
d) Left lower	h) Left flank	m) Umbilical
	i) Pubic	
_____ Gallbladder	_____ Stomach	
_____ Spleen	_____ Cecum	
_____ Rectum	_____ Urinary bladder	
_____ Right kidney	_____ Left kidney	
_____ Appendix	_____ Pancreas	

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2. Label the abdominopelvic quadrants and abdominopelvic regions by writing the correct terms in the spaces within the diagram. (See text figure 1.9 Abdominopelvic Subdivisions.) APR





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1.8 Maintenance of Life

Learning Objectives

11. Define metabolism, anabolism, and catabolism.
12. List the five basic needs essential for human life.
13. Define homeostasis.
14. Explain how homeostasis relates to both healthy body functions and disorders.
15. Describe the general mechanisms of negative-feedback and positive-feedback.

1. Write the terms that match the statements in the spaces at the right.
   a) Maintenance of a dynamic balance of substances in body fluids. _____
   b) Breakdown of complex substances. _____
   c) Synthesis of complex substances. _____
   d) Mechanism regulating homeostasis. _____
   e) Sum of the chemical reactions that occur in the body. _____
   f) List the five basic needs essential for human life. _____
   g) Components of a negative-feedback mechanism. _____

Clinical Insights and Critical Thinking

1. A patient complains of pain in the epigastric region. What organs may be involved? _____
2. A patient complains of pain in the right lower quadrant. What organs may be involved? _____
3. How is homeostasis related to health and disease? _____
4. A hypoglycemic (low blood glucose level) patient is given orange juice to drink. Explain how this increases the blood glucose level and the organ systems involved. _____

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5. Describe the location of the kneecap in as many ways as you can using directional terms. _____

6. Describe where serous membranes are located in the body, name the three types of serous fluid, and explain the function of serous fluid. _____

7. Explain how negative-feedback mechanisms regulate homeostasis. _____

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Corret Answers are located at the end of each chapter.

TRUE/FALSE - Write 'T' if the statement is true and 'F' if the statement is false.

1) Gross anatomy can best be studied using a microscope.
   - ◎ true
   - ◎ false

2) Physiology can best be studied using dissections.
   - ◎ true
   - ◎ false

MULTIPLE CHOICE - Choose the one alternative that best completes the statement or answers the question.

3) The term used to describe something pertaining to the internal organs is_____.
   - A) visceral
   - B) proximal
   - C) peripheral
   - D) deep

4) The term peripheral refers to a structure that is_____.
   - A) toward the abdominal surface
   - B) away from the body surface
   - C) away from the center of the body
   - D) to the left of the midline

5) The chin is_____ to the mouth, and the knee is_____ to the ankle.
   - A) anterior; distal
   - B) inferior; distal
   - C) superior; proximal
   - D) inferior; proximal

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6) The integumentary system is made up of the_____.
   A) bones, ligaments, and cartilage
   B) hormone-producing glands
   C) brain, spinal cord, and nerves
   D) skin, hair, nails, and associated glands

7) A tissue is_____.
   A) an organ with specific functions
   B) organs grouped together
   C) the structural and functional units of the body
   D) a group of cells that perform similar functions

8) The lowest level of organization in the body is the_____ level.
   A) organ
   B) tissue
   C) chemical
   D) cellular

9) A(n) _____ consists of a group of tissues working together to perform specific functions.
   A) organ
   B) tissue
   C) molecule
   D) organelle

10) The simplest structures in which the processes of life occur are_____.
   A) organs
   B) tissues
   C) molecules
   D) cells

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11) Blood, the heart, and blood vessels compose the_____ system.

A) cardiovascular
B) pulmonary
C) lymphatic
D) endocrine

12) The study of the structure and organization of the human body is_____.

A) histology
B) physiology
C) chemistry
D) anatomy

13) A feedback mechanism that returns the body to homeostasis is_____.

A) positive feedback
B) negative feedback
C) hormone feedback
D) nervous feedback

14) A negative feedback mechanism contains what three components?

A) A reflex, an effect, and a chemical signal
B) A receptor, a reflex, and a chemical signal
C) A receptor, an integration center, and an effector
D) A chemical signal, an integration center, and a reflex

15) A feedback mechanism that amplifies the stimulus is called _____.

A) positive feedback
B) negative feedback
C) hormone feedback
D) nervous feedback

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16) In anatomical terms, the forearm is the_____ region and the fingers are the_____ region.
A) patellar; plantar
B) antecubital; palmar
C) antebrachial; digital
D) crural; tarsals

17) In anatomical terms, the elbow is the_____ region.
A) axillary
B) cubital
C) brachial
D) pedal

18) The plane that divides the body into superior and inferior portions is the_____.
A) sagittal
B) transverse (horizontal)
C) frontal (coronal)
D) paramedian

19) The plane that separates the body into the front and back, or anterior and posterior portions, is the_____ plane.
A) frontal (coronal)
B) median
C) sagittal
D) transverse (horizontal)

20) A_____ plane is a plane that cut in between the longitudinal and cross-sectional axes.
A) oblique
B) median
C) sagittal
D) transverse (horizontal)

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21) Which body cavities are almost completely surrounded by bone?

A) Abdominal and pelvic cavities
B) Thoracic and abdominal cavities
C) Cranial cavity and vertebral canal
D) Thoracic cavity and vertebral canal

22) The mediastinum, pleural, and pericardial cavities are contained within the_____.

A) abdominal cavity
B) thoracic cavity
C) pelvic cavity
D) cranial cavity

23) Which quadrant is the stomach located within?

A) Left upper quadrant
B) Lower left quadrant
C) Right upper quadrant
D) Right lower quadrant

24) All the chemical reactions within a cell or organism are known as_____.

A) anabolic reactions
B) catabolic reactions
C) metabolism
D) maintenance

25) The survival needs of the human body include_____.

A) food, water, and oxygen.
B) food, water, oxygen, body temperature, and atmospheric pressure.
C) food, water, and the appropriate atmosphere containing oxygen and adequate pressure.
D) food, water, oxygen, and the appropriate environmental conditions.

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26) The sacral region of the body is located _____.

A) between the hips on the very lower back
B) above the thoracic region
C) directly below the cervical region
D) between the thoracic and lumbar regions

27) The diaphragm divides the_____.

A) pericardial and pleural cavities
B) abdominopelvic and thoracic cavities
C) abdominal and pelvic cavities.
D) thoracic cavity and mediastinum.

28) Which of the following is the anatomical term for the back of the knee?

A) Popliteal
B) Crural
C) Patellar
D) Perineal

29) Which of the following is the generic term for the anatomical term coxal?

A) Armpit
B) Thigh
C) Hip
D) Buttock

30) The cephalic region includes the_____.

A) the head and neck
B) the shoulders and arms
C) the cranial and facial regions
D) the cranial and cervical regions

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31) The upper and lower limbs compose the _____ portion of the body.
A) distal
B) proximal
C) axial
D) appendicular

32) A_____ plane divides the body into *equal* left and right portions.
A) sagittal
B) median
C) coronal
D) transverse

33) In anatomical terms, the arm is the _____, and the wrist is the _____ region.
A) antebrachium; cubital
B) brachium; carpal
C) brachial; cubital
D) antebrachium; carpal

34) The thoracic cavity contains which of the following cavities?
A) Cranial, abdominal, pelvic
B) Pericardial and pleural
C) Cranial, spinal, pelvic
D) Thoracic, pleural, pelvic

35) The membrane lining the abdominal cavity and covering the surfaces of its organs is the_____.
A) meninges
B) pleura
C) pericardium
D) peritoneum

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36) The gallbladder is located in the _____ quadrant.
A) right upper
B) right lower
C) left upper
D) left lower

37) The urinary bladder is located in the _____ region.
A) left inguinal
B) epigastric
C) hypogastric
D) umbilical

38) Digestion breaks down complex molecules into simpler molecules. Select the term that best describes this process.
A) Anabolism
B) Catabolism
C) Homeostasis
D) Negative Feedback

39) Homeostasis is maintained by self-regulating physiological processes. Select the process that is primarily responsible for maintaining homeostasis.
A) Anabolism
B) Catabolism
C) Positive Feedback
D) Negative Feedback

40) The part of a cell that is most like our organs is the_____.
A) organism
B) organic macromolecule
C) atom
D) organelle

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41) An organ system that protects vital organs, produces blood cells, and stores minerals is the_____ system

A) lymphatic
B) skeletal
C) cardiovascular
D) integumentary

42) The pericardium is located _____.

A) in the center of the thoracic cavity, surrounding the heart
B) in the superior mediastinum, surrounding the cardiac vessels
C) in the abdominal cavity, surrounding the pancreas
D) in the abdominal cavity, surrounding the aorta

43) The covering of the lungs is the _____, and they are located in the _____ cavities.

A) visceral pleura; pleural
B) parietal pleura; pleural
C) visceral pleura; peritoneal
D) parietal pleura; peritoneal

44) A lack of _____ would impair the body's ability to maintain homeostasis.

A) food
B) water
C) oxygen
D) All items listed are necessary to maintain homeostasis.

45) A chronic obstructive pulmonary disorder impairs the ability of the body to obtain oxygen. Eventually, if the body cannot compensate, _____ will be lost.

A) homeostasis
B) metabolism
C) equilibrium
D) energy

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Answer Key

Test name: Chapter 01

1) FALSE
2) FALSE
3) A
4) C
5) D
6) D
7) D
8) C
9) A
10) D
11) A
12) D
13) B
14) C
15) A
16) C
17) B
18) B
19) A
20) A
21) C
22) B
23) A
24) C
25) B
26) A
27) B
28) A
29) C
30) C
31) D
32) B
33) B
34) B
35) D
36) A
37) C

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38) B
39) D
40) D
41) B
42) A
43) A
44) D
45) A

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