

Exam

Name _____

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

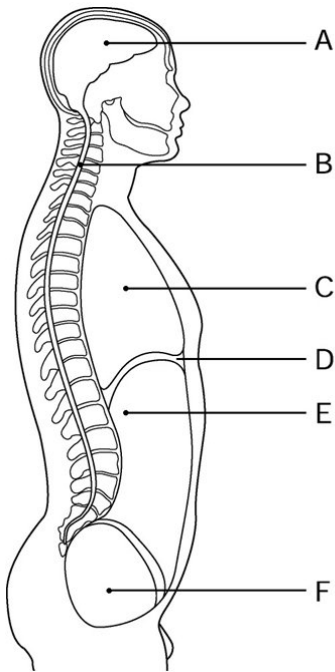


Figure 1.1

Using Figure 1.1, identify the following:

1) Identify the cavity that houses the spinal cord.

- A) Label A B) Label B C) Label C
D) Label D E) Label E F) Label F

1) _____

Answer: B

2) Label A points to the _____ cavity.

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

2) _____

Answer: C

3) Identify the cavity that houses the heart and lungs (and other organs).

- A) Label A B) Label B C) Label C
D) Label D E) Label E F) Label F

3) _____

Answer: C

4) Identify the structure that separates the thoracic cavity from the rest of the ventral cavity.

- A) Label A B) Label B C) Label C
D) Label D E) Label E F) Label F

4) _____

Answer: D

5) Label F points to the _____ cavity.

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

5) _____

Answer: B

6) Identify the cavity that houses the stomach, liver, and other digestive organs. 6) _____
 A) Label A B) Label B C) Label C
 D) Label D E) Label E F) Label F

Answer: E

7) A structure composed of two or more tissue types that performs a specific function for the body is a(n) _____. 7) _____
 A) organ B) organ system C) cell D) tissue

Answer: A

8) The heart and blood vessels are the primary organs of the _____ system. 8) _____
 A) lymphatic B) cardiovascular C) muscular D) integumentary

Answer: B

9) The skeletal muscles that contract and shorten to move the bones form the _____ system. 9) _____
 A) muscular B) reproductive C) skeletal D) endocrine

Answer: A

10) The _____ system rids the body of indigestible food residue in feces while the _____ system removes nitrogen-containing metabolic waste in urine. 10) _____
 A) urinary; digestive B) reproductive; digestive
 C) digestive; urinary D) cardiovascular; urinary

Answer: C

11) _____ refers to all of the chemical reactions in the body. 11) _____
 A) Hematopoiesis B) Metabolism C) Homeostasis D) Irritability

Answer: B

12) Normal human body temperature is _____ ° C (or _____ ° F). 12) _____
 A) 98; 37 B) 72; 102 C) 37; 98 D) 100; 212

Answer: C

13) The component of a control system that provides the means for the control center's response (output) is called the _____. 13) _____
 A) effector B) receptor C) stimulus D) control center

Answer: A

14) The net effect of the effector is to shut off the original _____, or reduce its intensity, during the negative feedback mechanism to restore homeostasis. 14) _____
 A) stimulus B) control center C) response D) receptor

Answer: A

15) When we imagine a person exhibiting anatomical position, the palms of the hands are assumed to be facing _____. 15) _____
 A) behind B) down C) to the side D) forward

Answer: D

16) The body's ability to maintain stable internal conditions is referred to as _____. 16) _____
 A) homeostasis B) irritability C) metabolism D) output

Answer: A

- 17) The femoral region is _____ to the crural region. 17) _____
 A) anterior B) superior (proximal)
 C) lateral D) inferior (distal)
 Answer: B
- 18) The armpit area is called the _____ region. 18) _____
 A) antebrachial B) axillary C) brachial D) femoral
 Answer: B
- 19) The vertebral region is _____ to the sternal region. 19) _____
 A) ventral (anterior B) medial
 C) dorsal (posterior) D) lateral
 Answer: C
- 20) The central region of the thoracic cavity containing the heart is called the _____. 20) _____
 A) quadrant B) visceral cavity C) pleural cavity D) mediastinum
 Answer: D
- 21) The right and left iliac (inguinal) regions are lateral to the _____ region. 21) _____
 A) right hypochondriac B) right lumbar
 C) left hypochondriac D) hypogastric (pubic)
 Answer: D
- 22) The cranial and spinal cavities are subdivisions of the _____ cavity. 22) _____
 A) ventral B) dorsal
 C) thoracic D) abdominopelvic
 Answer: B
- 23) The diaphragm creates a _____ section between the thoracic and abdominal body cavities. 23) _____
 A) median B) midsagittal
 C) transverse (cross) D) frontal (coronal)
 Answer: C
- 24) The hypogastric (pubic) region is _____ to the umbilical region. 24) _____
 A) posterior B) medial C) inferior D) superior
 Answer: C
- 25) Ventral is a directional term synonymous with _____ in humans. 25) _____
 A) dorsal B) anterior C) medial D) posterior
 Answer: B
- 26) Which region is medial? 26) _____
 A) right hypochondriac region B) left lumbar region
 C) right lumbar region D) epigastric region
 Answer: D
- 27) The navel is located in the _____ region of the abdominopelvic cavity. 27) _____
 A) epigastric B) hypogastric C) right lumbar D) umbilical
 Answer: D

28) The two major body cavities are _____ and _____. 28) _____
A) thoracic; ventral B) ventral; dorsal
C) cranial; dorsal D) abdominopelvic; thoracic

Answer: B

29) The abdominopelvic and thoracic cavities are subdivisions of the _____ cavity. 29) _____
A) dorsal B) ventral C) superior D) pelvic

Answer: B

30) The orbital cavities house the _____. 30) _____
A) ears B) eyes C) mouth D) nose

Answer: B

31) The abdominopelvic cavity has _____ quadrants and _____ regions. 31) _____
A) 4; 2 B) 6; 10 C) 4; 9 D) 9; 4

Answer: C

32) The majority of the liver and the gallbladder are situated in the _____ region of the 32) _____
abdominopelvic cavity.

- A) left hypochondriac B) right hypochondriac
C) right lumbar D) right iliac (inguinal)

Answer: B

33) The epigastric region is _____ to the right hypochondriac region of the abdominopelvic cavity. 33) _____
A) medial B) lateral C) dorsal D) superior

Answer: A

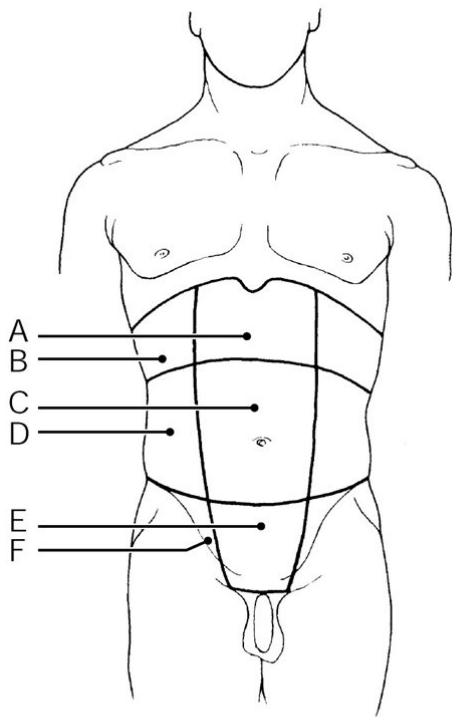


Figure 1.2

Using Figure 1.2, identify the following:

34) In which region is the stomach located?

- A) Label A
- B) Label B
- D) Label D
- E) Label E

- C) Label C
- F) Label F

34) _____

Answer: A

35) Which region is the umbilical region?

- A) Label A
- B) Label B
- D) Label D
- E) Label E

- C) Label C
- F) Label F

35) _____

Answer: C

36) Which region is lateral to the umbilical region?

- A) Label A
- B) Label B
- D) Label D
- E) Label E

- C) Label C
- F) Label F

36) _____

Answer: D

37) Which region is associated with the lower ribs?

- A) Label A
- B) Label B
- D) Label D
- E) Label E

- C) Label C
- F) Label F

37) _____

Answer: B

38) The hypogastric (pubic) region is:

- A) Label A
- B) Label B
- D) Label D
- E) Label E

- C) Label C
- F) Label F

38) _____

Answer: E

- 39) Which region is situated inferior to the right lumbar region? 39) _____
A) Label A B) Label B C) Label C
D) Label D E) Label E F) Label F

Answer: F

- 40) The study of the structure and shape of the body and its parts and their relationships to one another is called _____. 40) _____
A) anatomy
B) irritability
C) homeostasis
D) negative feedback
E) physiology

Answer: A

- 41) Which of the following activities represents a physiological study? 41) _____
A) examining the surface of a bone
B) observing how the heart contracts to pump blood
C) making a section through the kidney to observe its interior
D) studying how the layers of the skin are organized
E) viewing muscle tissue through a microscope

Answer: B

- 42) Which of the following is the correct sequence, going from simplest to most complex, in the levels of structural organization of the human body? 42) _____
A) cellular level, chemical level, tissue level, organ level, organ system level, organismal level
B) cellular level, chemical level, tissue level, organ system level, organismal level, organ level
C) chemical level, tissue level, cellular level, organ system level, organ level, organismal level
D) chemical level, cellular level, tissue level, organ level, organ system level, organismal level
E) cellular level, tissue level, chemical level, organ level, organ system level, organismal level

Answer: D

- 43) The building blocks of ALL matter are known as _____. 43) _____
A) tissues
B) cells
C) organ systems
D) organs
E) atoms

Answer: E

- 44) The major organs of the cardiovascular system are the _____. 44) _____
A) skeletal muscles
B) pharynx, larynx, trachea, bronchi and lungs
C) brain, spinal cord, nerves, sensory receptors
D) heart and blood vessels
E) bones, cartilages, ligaments, and joints

Answer: D

- 45) The main function of the respiratory system is to _____. 45) _____
A) supply the body with oxygen and remove carbon dioxide
B) break down food and deliver the products to the blood for dispersal
C) produce sperm and eggs
D) control body activities through hormones released into the blood
E) transport oxygen, nutrients, and wastes to and from body cells and tissues

Answer: A

- 46) The system that controls and coordinates the body through hormones is the _____. 46) _____
A) skeletal system
B) integumentary system
C) nervous system
D) endocrine system
E) digestive system

Answer: D

- 47) The muscular system consists of the _____. 47) _____
A) muscles of the heart
B) skeletal muscles
C) muscles of the heart and those in the walls of the hollow organs
D) skeletal muscles and the muscles of the heart
E) muscles in the walls of hollow organs

Answer: B

- 48) Which two organ systems include the pancreas? 48) _____
A) digestive and endocrine systems
B) reproductive and urinary systems
C) urinary and respiratory systems
D) endocrine and respiratory systems
E) digestive and respiratory systems

Answer: A

- 49) Which system covers the external surface of the body and protects deeper tissues? 49) _____
A) endocrine system
B) lymphatic system
C) integumentary system
D) skeletal system
E) nervous system

Answer: C

- 50) What is the major function of the lymphatic system? 50) _____
A) eliminate nitrogen-containing metabolic wastes from the body
B) break down food into absorbable units
C) secrete hormones to regulate body processes such as growth and reproduction
D) return leaked fluids back to the cardiovascular system
E) produce offspring

Answer: D

51) What are two organ systems that are involved in the excretion of wastes from the body? 51) _____
A) cardiovascular and nervous
B) digestive and urinary
C) muscular and skeletal
D) endocrine and nervous
E) cardiovascular and skeletal

Answer: B

52) Which of the following systems is matched most accurately to the life function it provides? 52) _____
A) nervous system - excretion
B) integumentary system - movement
C) muscular system - maintaining boundaries
D) nervous system - responsiveness
E) respiratory system - digestion

Answer: D

53) Which survival need accounts for 60 to 80 percent of body weight? 53) _____
A) vitamins B) oxygen C) water D) minerals E) nutrients

Answer: C

54) Which of the following is the correct order of elements in a control system? 54) _____
A) stimulus, receptor, efferent pathway, control center, afferent pathway, effector, response
B) receptor, stimulus, afferent pathway, control center, efferent pathway, effector, response
C) stimulus, receptor, afferent pathway, control center, efferent pathway, effector, response
D) effector, stimulus, efferent pathway, control center, afferent pathway, receptor, response
E) receptor, stimulus, efferent pathway, control center, afferent pathway, effector, response

Answer: C

55) Which of the following elements of a control system detects a change? 55) _____
A) effector
B) stimulus
C) control center
D) efferent pathway
E) receptor

Answer: E

56) Positive feedback systems _____. 56) _____
A) involve blood clotting and the birthing of a baby, and operate in such a way that the initial stimulus is enhanced and increases
B) involve blood clotting and the birthing of a baby
C) operate in such a way that the initial stimulus is enhanced and increases
D) operate in such a way that the initial stimulus is shut off or reduced
E) involve blood clotting and the birthing of a baby, and operate in such a way that the initial stimulus is shut off or reduced

Answer: A

57) Which of the following is considered a normal body temperature? 57) _____
A) 42 degrees Celsius
B) 35 degrees Celsius
C) 29 degrees Celsius
D) 37 degrees Celsius
E) 45 degrees Celsius

Answer: D

58) When correctly situated in anatomical position, where are your feet in relation to your knees? 58) _____
A) deep B) proximal C) distal D) medial E) superior

Answer: C

59) Which of the following orientation and directional terms have the same meaning (in humans)? 59) _____
A) anterior and dorsal
B) superior and caudal
C) inferior and cephalic
D) inferior and cranial
E) anterior and ventral

Answer: E

60) Which orientation and directional term means toward the midline of the body? 60) _____
A) medial B) superficial C) anterior D) lateral E) posterior

Answer: A

61) Jerome plays football and recently broke a bone in the tarsal region. This region is in the _____. 61) _____
A) wrist B) ankle C) thigh D) groin E) calf

Answer: B

62) Sudie works as an administrative assistant and has developed carpal tunnel syndrome. What part of her body is affected? 62) _____
A) neck
B) elbow
C) wrist
D) shoulder
E) lower back

Answer: C

63) In reference to the relationship between the patellar and popliteal regions, which of the following statements is correct? 63) _____
A) The patellar region is anterior to the popliteal region.
B) The patellar region is proximal to the popliteal region.
C) The patellar region is superior to the popliteal region.
D) The patellar region is lateral to the popliteal region.
E) The patellar region is distal to the popliteal region.

Answer: A

64) Which body cavity is part of the dorsal cavity? 64) _____
A) spinal cavity
B) abdominopelvic cavity
C) nasal cavity
D) orbital cavity
E) thoracic cavity

Answer: A

65) The lungs and heart are situated in the _____ body cavity. 65) _____
A) dorsal
B) spinal
C) abdominopelvic
D) thoracic
E) cranial

Answer: D

66) Which of these body regions is located on the inferior body surface? 66) _____
A) gluteal
B) antebrachial
C) femoral
D) plantar
E) coxal

Answer: D

67) The region that refers to the fingers and toes is the _____. 67) _____
A) carpal region
B) axillary region
C) antebrachial region
D) brachial region
E) digital region

Answer: E

68) The dorsal body cavity houses the _____. 68) _____
A) urinary and reproductive organs
B) spinal cord and brain
C) heart and lungs
D) digestive and reproductive organs
E) tongue

Answer: B

69) Which region is associated with the lower limb? 69) _____
A) axillary
B) sacral
C) popliteal
D) antebrachial
E) brachial

Answer: C

70) Which of these regions is NOT associated with the ventral (anterior) portion of the head? 70) _____
A) occipital B) oral C) buccal D) nasal E) orbital

Answer: A

71) The surgeon asked the surgical technician to help create an opening in the chest during open heart surgery along a plane that equally separated the right and left halves of the thoracic cavity. This section is known as a(n) _____.

- A) frontal section
- B) horizontal section
- C) transverse section
- D) median (midsagittal) section
- E) parasagittal section

Answer: D

72) Which type of section could be used to separate the thoracic cavity from the abdominopelvic cavity? _____

- A) dorsal
- B) ventral
- C) sagittal
- D) transverse
- E) coronal

Answer: D

73) Which cavity houses the mediastinum? _____

- A) cranial
- B) thoracic
- C) abdominal
- D) spinal
- E) pelvic

Answer: B

74) Which set of regions in the abdominopelvic cavity is medial? _____

- A) epigastric, right, and left hypochondriac regions
- B) iliac (inguinal), lumbar, and hypogastric (pubic) regions
- C) epigastric, umbilical, and hypogastric (pubic) regions
- D) umbilical, right lumbar, and left lumbar regions
- E) right and left iliac (inguinal), and hypogastric (pubic) regions

Answer: C

75) The thoracic cavity is _____ to the abdominopelvic cavity. _____

- A) lateral
- B) dorsal
- C) superior
- D) inferior
- E) proximal

Answer: C

76) The ribs are located in the _____. _____

- A) right and left inguinal regions
- B) right and left iliac (inguinal) regions
- C) right and left lumbar regions
- D) right and left hypochondriac regions
- E) right and left pubic regions

Answer: D

77) Which of the following statements is correct regarding the location of the stomach? _____

- A) The stomach is located in the left lower quadrant.
- B) The stomach is located in the right upper quadrant.
- C) The stomach is located in the right lower quadrant.
- D) The stomach is located in the left upper quadrant.
- E) The stomach is located medially.

Answer: D

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

78) Cells are the building blocks of all matter. 78) _____

Answer: True False

79) The endocrine system is the fast-acting body control system. 79) _____

Answer: True False

80) The adrenals, pancreas, thyroid, and parathyroids are glands of the endocrine system. 80) _____

Answer: True False

81) Hematopoiesis is a function of the skeletal system. 81) _____

Answer: True False

82) Responsiveness, or irritability, is the major responsibility of the skeletal system. 82) _____

Answer: True False

83) Most homeostatic control mechanisms are negative feedback mechanisms. 83) _____

Answer: True False

84) The human body consists of approximately 60% to 80% water. 84) _____

Answer: True False

85) In anatomical position, a person is assumed to be standing erect. 85) _____

Answer: True False

86) The heel of the foot constitutes the plantar region. 86) _____

Answer: True False

87) *Proximal* means farther from the origin of a body part. 87) _____

Answer: True False

88) The hypogastric (pubic) region is directly superior to the umbilical region. 88) _____

Answer: True False

89) The thoracic cavity is separated from the abdominopelvic cavity by the diaphragm. 89) _____

Answer: True False

90) The spinal cavity is part of the ventral body cavity. 90) _____

Answer: True False

91) Transverse or cross sections divide the body into anterior and posterior parts. 91) _____

Answer: True False

92) There is no physical structure that separates the abdominal cavity from the pelvic cavity. 92) _____

Answer: True False

MATCHING. Choose the item in column 2 that best matches each item in column 1.

Match the following:

93) Superior Answer: D	A) toward the backside of the body	93) _____
94) Dorsal Answer: A	B) farther from the origin of a body part or the point of attachment of a limb to the body trunk	94) _____
95) Lateral Answer: H	C) close to the origin of the body part or the point of attachment of a limb to the body trunk	95) _____
96) Deep Answer: F	D) above	96) _____
97) Distal Answer: B	E) anterior	97) _____
98) Medial Answer: G	F) internal	98) _____
99) Superficial Answer: I	G) toward the midline	99) _____
100) Proximal Answer: C	H) away from the midline	100) _____
101) Ventral Answer: E	I) external	101) _____

Match the following:

- | | | |
|--------------------------------|----------------------|------------|
| 102) Axillary
Answer: C | A) calf | 102) _____ |
| 103) Tarsal
Answer: J | B) hip | 103) _____ |
| 104) Deltoid
Answer: H | C) armpit | 104) _____ |
| 105) Antebrachial
Answer: F | D) arm | 105) _____ |
| 106) Femoral
Answer: I | E) groin | 106) _____ |
| 107) Sural
Answer: A | F) forearm | 107) _____ |
| 108) Coxal
Answer: B | G) leg | 108) _____ |
| 109) Inguinal
Answer: E | H) curve of shoulder | 109) _____ |
| 110) Brachial
Answer: D | I) thigh | 110) _____ |
| 111) Crural
Answer: G | J) ankle | 111) _____ |

Match the following:

- | | | |
|--|---------------------|------------|
| 112) Glands secrete hormones to regulate other structures
Answer: B | A) digestive system | 112) _____ |
| 113) Breaks down food for distribution by blood to the body's cells
Answer: A | B) endocrine system | 113) _____ |
| 114) Maintains posture and produces heat
Answer: C | C) muscular system | 114) _____ |

- | | | |
|---|--|------------|
| 115) Regulates the acid-base balance of the blood
Answer: C | A) integumentary system
B) lymphatic system | 115) _____ |
| 116) Picks up fluids leaked from blood vessels and returns it to blood
Answer: B | C) urinary system | 116) _____ |
| 117) Excretes urea and salt in perspiration
Answer: A | | 117) _____ |

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

- 118) Explain the relationship between anatomy and physiology.
Answer: Anatomy is the study of the structure and shape of the body and its parts and their relationships to one another while physiology is the study of how the body and its parts work or function. Structure (anatomy) determines what functions (physiology) can take place in the human body.
- 119) List, and briefly define, the human body's organization levels from smallest to largest.
Answer: 1. chemical level:
 a. atoms are the basic building blocks of matter
 b. molecules are units formed by atoms combining
 2. cellular level: cells are the smallest living unit in living organisms
 3. tissue level: tissues are groupings of cells performing a common function
 4. organ level: an organ is a structure consisting of two or more tissue types
 5. organ system level: an organ system describes a group of organs functioning cooperatively for a common purpose
 6. organism level: a human organism consists of all of the organ systems of the body working together to promote healthy functioning (homeostasis)
- 120) Identify the organ system that bears the major responsibility for responsiveness, one of the necessary life functions, and briefly explain the system's role in the body.
Answer: The nervous system bears the major responsibility for responsiveness (or irritability), the ability to sense changes (stimuli) in the environment and then react to them. The nervous system is the fast-acting controlling system of the body. This system responds to internal and external changes by activating appropriate muscles and glands.
- 121) List and explain the five survival needs of humans.
Answer: 1. Nutrients include carbohydrates, proteins, and fats, which are taken in via the diet for energy and cell building.
 2. Oxygen required to release energy from food.
 3. Water accounts for over 60% of the body weight, and provides the basis for various body fluids.
 4. Normal body temperature - when too high or too low, physiological activities cease, primarily because molecules are destroyed or become nonfunctional.
 5. Appropriate atmospheric pressure the force exerted on the surface of the body by the weight of air; is essential for normal operation of the respiratory system and breathing.

122) In your clinical rotations, you watch as an ultrasound is performed on the abdomen of a pregnant woman. The technician presses the ultrasound wand against the patient's skin inferior to the umbilical region. Your classmate mentions that the image produced is a transverse plane, but you disagree. Explain to your classmate what type of plane was likely used.

Answer: The ultrasound image produced was from a frontal, or coronal, plane, not a transverse plane. The image created an anterior view of the internal organs of the abdomen rather than an inferior view of the abdomen. Transverse planes are created along horizontal planes and separate the body into superior and inferior parts while frontal planes divide the body into anterior and posterior parts.

123) Identify the two dorsal body cavities, and state their locations and the organs contained therein.

Answer: 1. Cranial cavity—the superior posterior space inside the bony skull that houses the brain.
2. Spinal cavity—the inferior posterior space inside the bony vertebral column that houses the spinal cord.

124) Compare and contrast the *antecubital* region to the *olecranal* region.

Answer: The antecubital region is the anterior surface of the elbow while the olecranal region is the posterior surface of the elbow. While both of these regions refer to the elbow, the antecubital region is anterior surface and the olecranal region is posterior surface.

125) Explain how scratching an itch is an example of the negative feedback mechanism.

Answer: 1. Stimulus or input is the itch.
2. A receptor carries the information about the stimulus (itch) to the brain via an afferent pathway.
3. Control center (brain) analyzes this information and turns on an effector which will cancel the stimulus.
4. Information reaches the effector via the efferent pathway from the brain. Muscles move the hand to scratch the itch.
5. Scratching continues until the itch goes away. The brain shuts off the effector once homeostasis is restored.

126) Explain the terms *distal* and *proximal* using an example.

Answer: The term distal means farther from the origin of a body part or point or the attachment of a limb to the trunk. The *ankle is distal to the knee* means the ankle is further from the leg's attachment to the trunk than the knee. The term proximal means closer to the origin of a body part or the point of attachment of a limb to the trunk. The *knee is proximal to the ankle* means the knee is closer to the leg's attachment to the trunk than the ankle.

127) Describe anatomical position. Explain why anatomical position is used.

Answer: Anatomical position is defined as standing erect, feet parallel to the arms, palms facing forward. Anatomical position is used because it is a standard position; it also helps us to avoid confusion. Additionally, anatomical position is a reference point that helps us accurately describe body parts and position.

128) Describe the role of the effector in the negative feedback system.

Answer: The effector is the control center's output and response to the stimulus. The effector's job is to cancel or shut off the control mechanism.