

Exam

Name \_\_\_\_\_

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

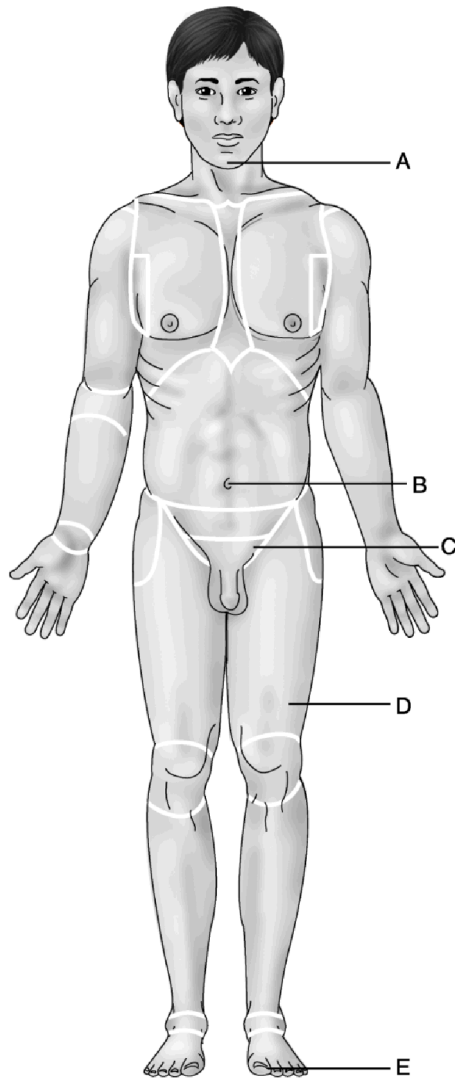


Figure 1.1

Using Figure 1.1, match the following:

- |              |          |
|--------------|----------|
| 1) Mental    | 1) _____ |
| 2) Umbilical | 2) _____ |
| 3) Hallux    | 3) _____ |
| 4) Inguinal  | 4) _____ |

5) Femoral

5) \_\_\_\_\_

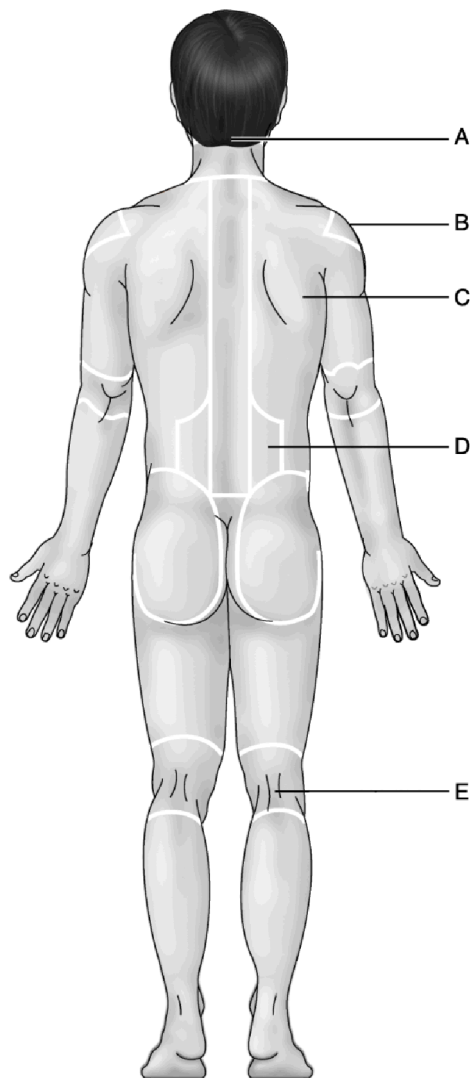


Figure 1.2

Using Figure 1.2, match the following:

6) Lumbar

6) \_\_\_\_\_

7) Acromial

7) \_\_\_\_\_

8) Scapular

8) \_\_\_\_\_

9) Popliteal

9) \_\_\_\_\_

10) Occipital

10) \_\_\_\_\_

Match the following:

- A. superior
- B. lateral
- C. anterior
- D. proximal
- E. deep

- |  |           |
|--|-----------|
| 11) The head is _____ to the chest.                      | 11) _____ |
| 12) The sternal region is _____ to the scapular region.  | 12) _____ |
| 13) The elbow is _____ to the hand.                      | 13) _____ |
| 14) The nose is _____ to the chin.                       | 14) _____ |
| 15) The thumb is _____ to the index finger.              | 15) _____ |
| 16) Muscles are _____ to the skin.                       | 16) _____ |
| 17) The auricle of the ear is _____ to the eyes.         | 17) _____ |
| 18) The lip is _____ to the chin.                        | 18) _____ |
| 19) The eye is _____ to the occipital region.            | 19) _____ |
| 20) The acromial region is _____ to the scapular region. | 20) _____ |
| 21) The gluteal region is _____ to the popliteal region. | 21) _____ |
| 22) The patellar region is _____ to the plantar region.  | 22) _____ |
| 23) The heart is _____ to the sternum.                   | 23) _____ |
| 24) The pubic area is _____ to the gluteal region.       | 24) _____ |
| 25) The umbilical region is _____ to the lumbar region.  | 25) _____ |

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

- |   |           |
|---|-----------|
| 26) Serous cavities include the pericardial cavity. | 26) _____ |
| 27) Serous cavities contain air.                    | 27) _____ |
| 28) The middle ear cavity is a serous cavity.       | 28) _____ |

- 29) EM has much greater resolution than LM. 29) \_\_\_\_\_
- 30) There are nine regions dividing the human body. 30) \_\_\_\_\_
- 31) Transmission electron microscopy is most often used in the study of anatomy of cells. 31) \_\_\_\_\_
- 32) A CT scan produces an image of a transverse section of the body. 32) \_\_\_\_\_
- 33) MRI techniques can only show images that are hard and deflect the X rays. 33) \_\_\_\_\_
- 34) Ultrasound techniques are used to image a fetus as they are less damaging than other techniques. 34) \_\_\_\_\_
- 35) Angiography imaging is used primarily in the study of blood supply to the brain. 35) \_\_\_\_\_
- 36) PET scans require a radioactive sugar or water solution to be injected into the patient. 36) \_\_\_\_\_
- 37) All vertebrate embryos have a dorsal hollow nerve cord. 37) \_\_\_\_\_
- 38) A transverse plane could cut the head off of the body! 38) \_\_\_\_\_
- 39) In anatomical position, the palms of the hands face medially toward the thighs. 39) \_\_\_\_\_
- 40) The mediastinum contains the trachea and lungs. 40) \_\_\_\_\_

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

- 41) The smallest living unit is 41) \_\_\_\_\_  
A) a molecule. B) an organ. C) a human being. D) a cell.
- 42) Which branch of anatomy studies the structural changes that occur as one ages? 42) \_\_\_\_\_  
A) surface anatomy B) pathological anatomy  
C) regional anatomy D) developmental anatomy
- 43) Anatomy at the level of the electron microscope is 43) \_\_\_\_\_  
A) anatomy of only the developing embryo. B) synonymous with ultrastructure.  
C) synonymous with histology. D) synonymous with cytology.
- 44) A coronal section through the human body can 44) \_\_\_\_\_  
A) pass through both the nose and the occipital region.  
B) lie in a horizontal plane.  
C) pass through both ears.  
D) provide mirror right and left images.
- 45) During the process of \_\_\_\_\_, noncellular artifacts can be introduced into histology samples. 45) \_\_\_\_\_  
A) observation B) photography C) time D) staining

- 46) When referring to the "AP cavity" as a part of the ventral body cavity, one means 46) \_\_\_\_\_  
A) all "P" cavities (peritoneal, pleural, pelvic, pericardial).  
B) abdominopelvic cavity.  
C) anterior-posterior cavity.  
D) a peritoneal cavity.
- 47) The "CT" in "CT scanning" stands for 47) \_\_\_\_\_  
A) correlated thickness. B) cut transversely.  
C) computed tomography. D) Charles Thorgaard, the inventor's name.
- 48) What is the function of serous membranes? 48) \_\_\_\_\_  
A) They contain gland cells that secrete mucus.  
B) They halt the spread of infection.  
C) They act like wrapping paper to hold visceral organs together.  
D) They reduce friction so that viscera move freely.
- 49) The notochord is 49) \_\_\_\_\_  
A) a primitive supporting rod.  
B) our nerve cord.  
C) a rod that provides support to the umbilical cord.  
D) the same as the human backbone.
- 50) The main purpose of fixation is 50) \_\_\_\_\_  
A) to stick tissue sections to a glass slide. B) to preserve the tissue.  
C) to mend breaks in tissue sections. D) to make an organ easier to section.
- 51) A histologist examines a specimen that has an epithelium overlying some smooth muscle. This specimen is part of a(n) 51) \_\_\_\_\_  
A) tissue. B) cell. C) organ. D) molecule.
- 52) An example of a tissue in the body is 52) \_\_\_\_\_  
A) a muscle cell. B) a macromolecule.  
C) the stomach. D) epithelium.
- 53) An example of an organ is 53) \_\_\_\_\_  
A) epithelium.  
B) the intestine.  
C) the cardiovascular system (but not the circulatory system).  
D) a fat cell.
- 54) Which organ system consists of vessels that do not carry blood, but pick up fluids (and some cells) that are leaked from the blood? 54) \_\_\_\_\_  
A) lymphatic B) endocrine C) urinary D) integumentary
- 55) Large molecules such as proteins are called 55) \_\_\_\_\_  
A) macromolecules. B) multi-atom units.  
C) cellular organelles. D) cells.

- 56) Which organ system covers the external surface of the body, but not the internal surface of the mouth? 56) \_\_\_\_\_  
 A) digestive B) integumentary C) cutaneous D) lymphatic
- 57) Which organ system includes the spinal cord? 57) \_\_\_\_\_  
 A) skeletal B) muscular C) integumentary D) nervous
- 58) The height of an average person's trunk, from neck to perineum, is about 58) \_\_\_\_\_  
 A) 5 meters. B) 1 meter. C) 10 centimeters. D) 1000  $\mu\text{m}$ .
- 59) Which is **false** concerning the anatomical position? 59) \_\_\_\_\_  
 A) The person is lying down, as straight as possible.  
 B) The toes point anteriorly, but the fingers point inferiorly.  
 C) The palms face anteriorly.  
 D) The knees, elbow, and neck are straight (not bent).
- 60) Bilateral symmetry can apply to objects as well as to animal bodies. Which of the following capital letters of the alphabet is **not** bilaterally symmetrical? 60) \_\_\_\_\_  
 A) L B) O C) M D) A
- 61) Which structure is not covered by visceral serosa? 61) \_\_\_\_\_  
 A) ribs B) uterus C) lungs D) stomach
- 62) The femoral region is the 62) \_\_\_\_\_  
 A) toes. B) thigh. C) hip. D) buttocks.
- 63) The inguinal region lies 63) \_\_\_\_\_  
 A) where the thigh joins the trunk. B) on the anterior neck.  
 C) anterior to the elbow joint. D) on the external genitals.
- 64) The perineal region is the 64) \_\_\_\_\_  
 A) superior part of the gluteal region.  
 B) region between the external genitals and the anus.  
 C) point of the shoulder.  
 D) side of the leg.
- 65) Which structure is not present in the mediastinum? 65) \_\_\_\_\_  
 A) heart B) esophagus C) trachea D) lung
- 66) A horizontal plane is the same as a \_\_\_\_\_ plane. 66) \_\_\_\_\_  
 A) coronal B) midsagittal C) transverse D) sagittal
- 67) Another name for the midsagittal plane is 67) \_\_\_\_\_  
 A) coronal. B) parasagittal. C) median. D) oblique.
- 68) What point or structure in the body is located farthest laterally? (Hint: always referring to the anatomical position.) 68) \_\_\_\_\_  
 A) tip of thumb B) little toe C) ear D) the coxal region

- 69) Although transmission electron microscopy is usually used for high-magnification viewing, it is certainly possible to use it at low magnification as well. That is, one can produce similar micrographs of tissues taken by light microscopy and electron microscopy at the same magnification. Even at the same magnification, however, you can easily tell the two kinds of micrographs apart. How? 69) \_\_\_\_\_
- A) Tissue for electron microscopy cannot be sectioned.
  - B) Tissue viewed by electron microscopy is colored and light micrographs are always black and white (and shades of gray).
  - C) The image in the electron micrograph is still sharper.
  - D) Tissue for light microscopy cannot be fixed (no fixation).
- 70) The main advantage of MRI as a medical imaging technique is 70) \_\_\_\_\_
- A) it is very inexpensive.
  - B) the patient feels less pain during the procedure than with any other imaging technique.
  - C) it shows soft tissues very clearly.
  - D) safety.
- 71) The extremities are the same as 71) \_\_\_\_\_
- A) the fingers and toes.
  - B) all structures in the head.
  - C) the ears.
  - D) the limbs.
- 72) Which of the following pairs of organs/structures is located ipsilateral? 72) \_\_\_\_\_
- A) mouth : navel
  - B) cecum : sigmoid colon
  - C) right lung : left lung
  - D) descending colon : spleen
- 73) A physician viewing an injury to the back would look at the patient's \_\_\_\_\_ side. 73) \_\_\_\_\_
- A) ventral
  - B) cranial
  - C) lateral
  - D) posterior
- 74) The \_\_\_\_\_ body cavity contains the brain. 74) \_\_\_\_\_
- A) ventral
  - B) lateral
  - C) serous
  - D) dorsal
- 75) The roots of anatomical terminology lie mainly in 75) \_\_\_\_\_
- A) Esperanto.
  - B) Russian and Old English.
  - C) Latin and Greek.
  - D) German and French.
- 76) Which of the following imaging techniques receives information only from transverse planes of the body? 76) \_\_\_\_\_
- A) DSA and standard X rays
  - B) MRI
  - C) CT
  - D) sonography
- 77) Hormones are regulatory proteins that are secreted by the \_\_\_\_\_ system. 77) \_\_\_\_\_
- A) urinary
  - B) lymphatic
  - C) integumentary
  - D) endocrine
- 78) Which organ system keeps blood constantly supplied with oxygen, removes carbon dioxide, and contains many air tubes? 78) \_\_\_\_\_
- A) endocrine
  - B) integumentary
  - C) urinary
  - D) respiratory
- 79) The elimination of nitrogenous wastes from body fluids is regulated by the \_\_\_\_\_ system. 79) \_\_\_\_\_
- A) lymphatic
  - B) urinary
  - C) endocrine
  - D) integumentary

- 80) Which structures are evidence of the vertebrate characteristic of segmentation? 80) \_\_\_\_\_  
A) multiple joints of fingers B) vertebral column  
C) branches of the blood vessels D) subdivisions of the gastrointestinal tract
- 81) Which statement is not true of visceral serosa? 81) \_\_\_\_\_  
A) It is continuous with the membrane that covers the outer body wall.  
B) It is deep to the parietal serosa.  
C) It clings to the surface of organs.  
D) It lines the internal surface of hollow organs.
- 82) How many micrometers are there in a meter? 82) \_\_\_\_\_  
A) 1,000,000 B) 10 C) 1000 D) 100
- 83) Which organ is not found in the ventral body cavity? 83) \_\_\_\_\_  
A) urinary bladder B) liver  
C) heart D) spinal cord
- 84) The knee lies \_\_\_\_\_ to the hip. 84) \_\_\_\_\_  
A) deep B) lateral C) proximal D) inferior
- 85) The axillary artery would be found in the region of the 85) \_\_\_\_\_  
A) long axis of any limb. B) posterior surface of the knee.  
C) vertebral column. D) armpit.
- 86) As an anatomical region, lumbar refers to 86) \_\_\_\_\_  
A) the loin of the back. B) the wrist.  
C) part of the lower limb. D) the breast.
- 87) The buccal region is the 87) \_\_\_\_\_  
A) cheeks. B) underside of the foot.  
C) calf of the leg. D) waist.
- 88) The popliteal region is 88) \_\_\_\_\_  
A) the inferior part of the gluteal region. B) the side of the leg.  
C) in the cervical region. D) the posterior surface of the knee.
- 89) The coxal region is 89) \_\_\_\_\_  
A) the same as the inguinal region. B) the skin over the "tail bone."  
C) the posterior surface of the wrist. D) the hip.
- 90) Which abdominal structure is located in the left hypochondriac region? 90) \_\_\_\_\_  
A) appendix B) spleen C) gall bladder D) stomach

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 91) Describe the difference between proximal and distal. 91) \_\_\_\_\_
- 92) Describe the location of the knee to the ankle. 92) \_\_\_\_\_



- 93) Describe the location of the upper arm to the fingertips. 93) \_\_\_\_\_
- 94) In humans, what term is synonymous with anterior? 94) \_\_\_\_\_
- 95) Clinicians refer to \_\_\_\_\_ anatomy when locating blood vessels to draw blood, feeling pulses, and avoiding nerves while giving injections. 95) \_\_\_\_\_
- 96) In humans, the region between the anus and the external genitals is the \_\_\_\_\_. 96) \_\_\_\_\_
- 97) The olecranal region is posterior to what region? 97) \_\_\_\_\_
- 98) The head, neck, and trunk comprise the \_\_\_\_\_ region. 98) \_\_\_\_\_
- 99) What is the term for the thumb? 99) \_\_\_\_\_
- 100) One could say that the forearm is \_\_\_\_\_ to the brachial region. 100) \_\_\_\_\_
- 101) Cutting the body along the median plane produces a \_\_\_\_\_ view. 101) \_\_\_\_\_
- 102) One could describe the skin of the mammary region as being \_\_\_\_\_ to the ribs. 102) \_\_\_\_\_
- 103) A \_\_\_\_\_ plane separates the body into unequal left and right halves. 103) \_\_\_\_\_
- 104) The measurement typically used for structures within a cell is the \_\_\_\_\_. 104) \_\_\_\_\_
- 105) The \_\_\_\_\_ system is involved in immunity. 105) \_\_\_\_\_

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

- 106) Describe what systems are found in the arm.
- 107) What organ systems would be found in the arm and not in the leg?
- 108) List the six unique features found in all vertebrates at some stage of their life.
- 109) In adult humans, what remnants of segmentation remain?
- 110) Select from the following techniques the best method for assessing brain function in a stroke patient: X ray, sonography, MRI. Explain why the other choices are not the best choice.

## Answer Key

Testname: UNTITLED1

- 1) A
- 2) B
- 3) E
- 4) C
- 5) D
- 6) D
- 7) B
- 8) C
- 9) E
- 10) A
- 11) superior
- 12) anterior
- 13) proximal
- 14) superior
- 15) lateral
- 16) deep
- 17) lateral
- 18) superior
- 19) anterior
- 20) superior
- 21) superior
- 22) proximal
- 23) deep
- 24) anterior
- 25) anterior
- 26) TRUE
- 27) FALSE
- 28) FALSE
- 29) TRUE
- 30) TRUE
- 31) TRUE
- 32) TRUE
- 33) FALSE
- 34) TRUE
- 35) TRUE
- 36) TRUE
- 37) TRUE
- 38) TRUE
- 39) FALSE
- 40) FALSE
- 41) D
- 42) D
- 43) B
- 44) C
- 45) D
- 46) B
- 47) C
- 48) D
- 49) A
- 50) B

## Answer Key

Testname: UNTITLED1

- 51) C
- 52) D
- 53) B
- 54) A
- 55) A
- 56) B
- 57) D
- 58) B
- 59) A
- 60) A
- 61) A
- 62) B
- 63) A
- 64) B
- 65) D
- 66) C
- 67) C
- 68) A
- 69) C
- 70) C
- 71) D
- 72) D
- 73) D
- 74) D
- 75) C
- 76) C
- 77) D
- 78) D
- 79) B
- 80) B
- 81) D
- 82) A
- 83) D
- 84) D
- 85) D
- 86) A
- 87) A
- 88) D
- 89) D
- 90) B
- 91) Proximal means closer to the point of attachment to the main part of the body; distal is further.
- 92) The knee is proximal to the ankle.
- 93) The upper arm is proximal to the fingertips.
- 94) ventral
- 95) surface
- 96) perineal
- 97) antecubital
- 98) axial
- 99) pollex
- 100) distal

## Answer Key

Testname: UNTITLED1

- 101) sagittal
- 102) superficial or anterior
- 103) parasagittal
- 104) micrometer
- 105) lymphatic
- 106) The arm contains elements of the skeletal, nervous, cardiovascular, muscular, lymphatic, and integumentary systems.
- 107) None
- 108) Tube-within-a-tube body plan, bilateral symmetry, dorsal hollow nerve cord, notochord and vertebrae, segmentation, and pharyngeal pouches.
- 109) The ribs and the vertebrae, with their segmental spinal nerves are remnants of segmentation.
- 110) MRI is the best method of assessing brain function. X rays do not image soft tissues well or with high resolution. They also produce only two-dimensional images of a structure. Sonography cannot be used to study the brain because sound waves cannot pass through the body skull.