

Exam

Name _____

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

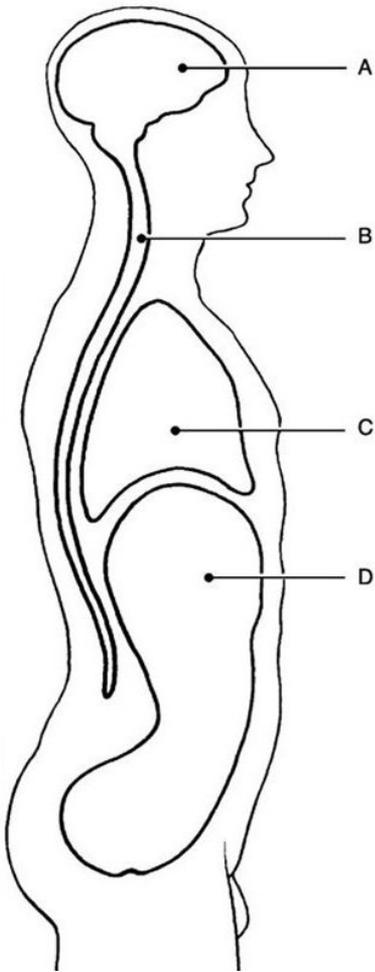


Figure 1.1

Using Figure 1.1, match the following cavities:

1) Thoracic cavity.

2) Cranial cavity.

3) Abdominal cavity.

4) Vertebral cavity.

1) _____

2) _____

3) _____

4) _____

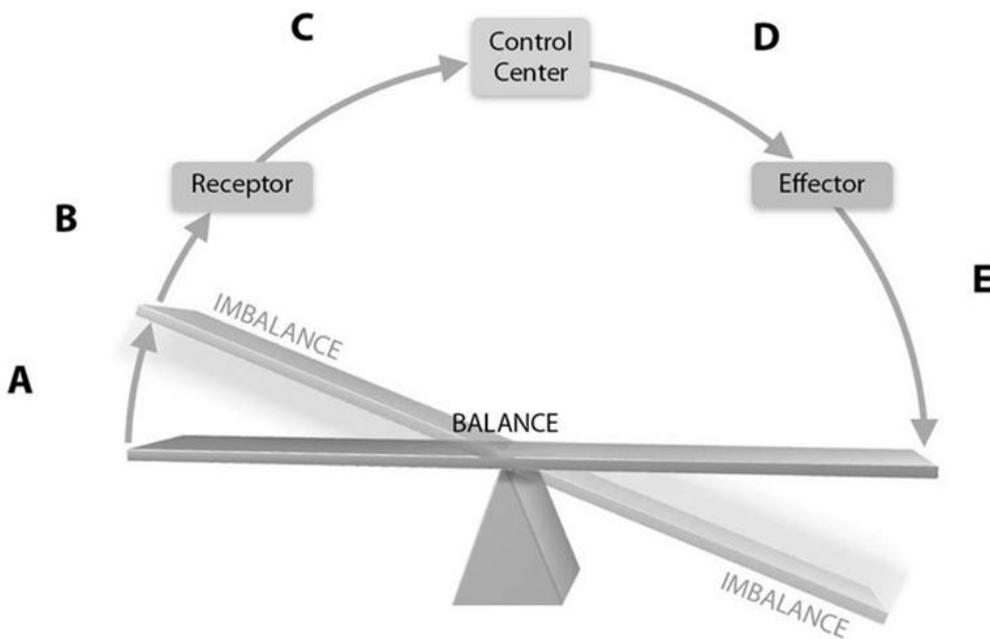


Figure 1.2

Using Figure 1.2, match the following descriptions to the most appropriate letter on the diagram:

- | | |
|---|----------|
| 5) Information about body temperature is sent through afferent pathways to the brain. | 5) _____ |
| 6) Free nerve endings in the skin detect changes in skin temperature (getting colder). | 6) _____ |
| 7) Appropriate response information is sent through efferent pathways. | 7) _____ |
| 8) A change in the temperature of the external environment (getting colder). | 8) _____ |
| 9) Skeletal muscles respond with shivering reflex which provides heat to return the body's temperature to a homeostatic balance or "ideal" value. | 9) _____ |

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

Match the following systems to their functions:

- | | | |
|--|------------------|-----------|
| 10) Provides the force to move bones about their joints. | A) Integumentary | 10) _____ |
| 11) Responds to environmental changes by transmitting electrical impulses. | B) Nervous | 11) _____ |
| 12) Provides a ridged framework to support the body and stores minerals. | C) Skeletal | 12) _____ |
| 13) Prevents water loss, entry of germs into the body and synthesizes vitamin D. | D) Muscular | 13) _____ |

Match the following systems to their functions:

- | | | |
|--|---------------------|-----------|
| 14) Controls the body with chemical molecules called hormones. | A) Lymphatic/Immune | 14) _____ |
| 15) Delivers oxygen and nutrients to the tissues. | B) Endocrine | 15) _____ |
| 16) Produces antibodies that attach to foreign substances. | C) Cardiovascular | 16) _____ |
| 17) Removes and filters excess fluid from tissues. | | 17) _____ |

Match the following examples of feedback mechanisms:

- | | | |
|---|----------------------|-----------|
| 18) Used for changes in blood glucose levels. | A) Negative feedback | 18) _____ |
| 19) Used for changes in blood pressure. | B) Positive feedback | 19) _____ |
| 20) Used for blood clotting. | | 20) _____ |
| 21) Used for childbirth. | | 21) _____ |

Match the following systems and organs:

- | | | |
|--|-------------------|-----------|
| 22) Arteries, veins, heart. | A) Cardiovascular | 22) _____ |
| 23) Trachea, bronchi, alveoli. | B) Digestive | 23) _____ |
| 24) Adrenal glands, pancreas, pituitary. | C) Urinary | 24) _____ |
| 25) Esophagus, large intestine, rectum. | D) Respiratory | 25) _____ |
| 26) Kidneys, bladder, ureters. | E) Endocrine | 26) _____ |

Match the following cavities and organs:

- | | | |
|--------------|-------------------|-----------|
| 27) Stomach. | A) Abdominopelvic | 27) _____ |
| 28) Heart. | B) Thoracic | 28) _____ |
| 29) Uterus. | C) Cranial | 29) _____ |
| 30) Brain. | | 30) _____ |
| 31) Lungs. | | 31) _____ |

Match the following regional terms and common terms:

- | | | |
|-----------------------------|-------------|-----------|
| 32) Arm. | A) Gluteal | 32) _____ |
| 33) Buttock. | B) Patellar | 33) _____ |
| 34) Head. | C) Brachial | 34) _____ |
| 35) Knee (anterior aspect). | D) Cephalic | 35) _____ |
| 36) Chest. | E) Thoracic | 36) _____ |

Match the regional/directional terms and examples:

- | | | |
|--|-------------|-----------|
| 37) The bridge of the nose is _____ to the left eye. | A) Proximal | 37) _____ |
| 38) The upper arm is _____ to the forearm. | B) Anterior | 38) _____ |
| 39) The lungs are _____ to the heart. | C) Medial | 39) _____ |
| 40) The fingers are _____ to the wrist. | D) Distal | 40) _____ |
| 41) The stomach is _____ to the spine. | E) Lateral | 41) _____ |

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

- | | |
|--|-----------|
| 42) Positive feedback mechanisms tend to enhance the original stimulus so that the response is accelerated. | 42) _____ |
| 43) Digital Subtraction Angiography (DSA) imaging is most useful in discovering obstructed blood supplies in organs and tissues. | 43) _____ |
| 44) The elbow is proximal to the shoulder. | 44) _____ |
| 45) The part of the serous membrane that lines the peritoneal cavity wall is called visceral peritoneum. | 45) _____ |
| 46) A major function of serous membranes is to decrease friction. | 46) _____ |
| 47) The right hypochondriac region contains the majority of the stomach. | 47) _____ |
| 48) Lungs carry out an excretory function. | 48) _____ |
| 49) Embryology concerns the structural changes that occur in an individual from conception through old age. | 49) _____ |
| 50) A tissue consists of groups of similar cells that have a common function. | 50) _____ |

- 51) It is important for any organism to maintain its boundaries, so that its internal environment remains distinct from the external environment surrounding it. 51) _____
- 52) Without some sort of negative feedback mechanism, it would be impossible to keep our body chemistry in balance. 52) _____
- 53) Responsiveness or irritability is the ability to sense changes in the environment and then respond to them. 53) _____
- 54) The epigastric region is superior to the umbilical region. 54) _____

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

- 55) Histology would be best defined as a study of _____. 55) _____
 A) cell chemistry B) cells
 C) the gross structures of the body D) tissues
- 56) The study of large body structures, visible to the naked eye, such as the heart is called _____ anatomy. 56) _____
 A) developmental B) microscopic C) systemic D) gross
- 57) Expiration (breathing out) is how the body removes excessive carbon dioxide from the blood. This is an example of _____. 57) _____
 A) excretion of metabolic waste B) maintaining boundaries
 C) responsiveness D) metabolism
- 58) Generally what is the result of the negative feedback process? 58) _____
 A) to control body movement B) to keep the body's blood sugar level high
 C) to maintain homeostasis D) to regulate excretion via the kidneys
- 59) The coxal joint is most likely found in _____ region of the body. 59) _____
 A) hip B) foot C) groin D) hand
- 60) A structure that is composed of two or more tissue types that work together to perform specific functions for the body is a(n) _____. 60) _____
 A) organ system B) organ C) complex cell D) complex tissue
- 61) The anatomical position is characterized by all of the following except _____. 61) _____
 A) thumbs pointed laterally B) body erect
 C) palms turned posteriorly D) arms at sides
- 62) A good example of a positive feedback mechanism would be _____. 62) _____
 A) body temperature regulation B) blood calcium level regulation
 C) regulating glucose levels in the blood D) enhancement of labor contractions
- 63) Which of the following describes a parasagittal plane? 63) _____
 A) two cuts dividing the body into left and right halves
 B) any sagittal plane except in the midline
 C) a transverse cut just above the knees
 D) any cut dividing the body into anterior and posterior portions

- 64) Which of the following organs or structures would be found in the left iliac region? 64) _____
 A) stomach B) appendix C) intestines D) liver
- 65) The parietal pleura would represent a serous membrane _____. 65) _____
 A) covering the heart B) lining the abdominal cavity
 C) lining the thoracic cavity D) covering individual lungs
- 66) Which one of the following systems responds fastest to environmental stimuli? 66) _____
 A) lymphatic B) immune C) nervous D) muscular
- 67) Choose the anatomical topic and definition that is not correctly matched. 67) _____
 A) Cytology: study of the structures in a particular region.
 B) Gross anatomy: study of structures visible to the eye.
 C) Embryology: study of the changes in an individual from conception to birth.
 D) Microscopic anatomy: study of structures too small to be seen by the naked eye.
- 68) Homeostasis is the condition in which the body maintains _____. 68) _____
 A) a relatively stable internal environment, within limits
 B) a dynamic state within an unlimited range, depending on circumstances
 C) a static state with no deviation from preset points
 D) the lowest possible energy usage
- 69) In which body cavities are the lungs located? 69) _____
 A) mediastinal, thoracic, and ventral B) pericardial, ventral, and thoracic
 C) pleural, ventral, and thoracic D) pleural, dorsal, and abdominal
- 70) Choose the following statement that is not completely correct regarding serous membranes. 70) _____
 A) Serous membranes secrete a watery lubricating fluid.
 B) Visceral pericardium covers the outer surface of the heart, and parietal pericardium lines the internal walls of the heart.
 C) Serous membranes are divided into parietal and visceral membranes with a virtual space between the two.
 D) Serosa are very thin, double-layered structures.
- 71) Place the following in correct sequence from simplest to most complex: 71) _____
 1. molecules
 2. atoms
 3. tissues
 4. cells
 5. organs
 A) 1-2-4-3-5 B) 2-1-4-3-5 C) 1-2-3-4-5 D) 2-1-3-4-5
- 72) Which of the following imaging devices would best localize a tumor in a person's brain? 72) _____
 A) MRI B) DSA C) PET D) X ray
- 73) Which of these is not part of the dorsal cavity? 73) _____
 A) spinal cord B) cranial cavity C) thoracic cavity D) vertebral cavity

- 85) It is wise to study anatomy alongside with physiology because _____. 85) _____
 A) anatomy and physiology are practically the same thing
 B) it makes for more efficient use of students' and teachers' time
 C) physiology is only explainable in terms of the underlying anatomy
 D) to understand anatomy requires complete understanding of physiology
- 86) The study of anatomy and physiology assumes and describes a healthy body. Select the description below that does *not* explain why this approach is useful. 86) _____
 A) A healthy body establishes what "normal" is.
 B) Study of a healthy body provides a foundation for a more complete understanding of all human bodies.
 C) A healthy body provides a common standard to compare to.
 D) Study of a healthy body is less intimidating and more familiar to new students.
- 87) One of the descriptions below is from the perspective of anatomical study, the rest are from a physiological perspective. Select the description below that comes from an anatomical perspective. 87) _____
 A) The cell-to-cell connections between heart (cardiac) muscle cells are strong. They hold the tissue together for a life time of forceful contractions.
 B) The innermost lining of the lungs is composed primarily of a thin tissue called simple squamous epithelium.
 C) The direction of blood flow through the heart is directed by one way valves.
 D) The extremely thin tissue (simple squamous epithelium) of the lungs allows for the quick diffusion of respiratory gases into and out of the body.
- 88) One of the descriptions below is from the perspective of physiological study, the rest are from an anatomical perspective. Select the description below that comes from physiological perspective. 88) _____
 A) The skull is formed by 22 facial and cranial bones.
 B) The pancreas lies deep to the stomach within the abdominal cavity.
 C) The chambers of the heart and blood vessels leading to and from the heart are separated by valves composed of fibrous connective tissue.
 D) The contraction of smooth muscle in blood vessels (vasoconstriction) can reduce the flow of blood through the vessel.
- 89) Which of the following is the best explanation for why cells are considered the smallest units of living things. 89) _____
 A) Cells are the simplest structure to fit all of the characteristics necessary to be considered alive.
 B) Cells cannot be seen with the naked eye and are considered microscopic.
 C) Cells have the ability to reproduce identical copies of themselves in a process called mitosis.
 D) Cells are highly ordered and complex.
- 90) Prevention of water loss is a necessary function for life that would best fit in the category of _____. 90) _____
 A) excretion
 B) responsiveness
 C) maintaining boundaries
 D) metabolism
- 91) Anabolic reactions are chemical reactions of the body that build things, make them bigger or more complex. Catabolic reactions break things down making them smaller or less complex. If the rate of anabolic reaction in the body is much faster than the rate of catabolic reactions which of the following necessary life function will be accomplished? 91) _____
 A) movement
 B) digestion
 C) responsiveness
 D) growth

- 92) Anatomical position is important because _____. 92) _____
 A) it allows a common point of reference for body position to help communicate anatomical relationships
 B) it provides the greatest circulation to the extremities
 C) it is the position most comfortable to hospital patients
 D) it allows diagrams within textbooks to display a greater surface area of the body with one simple diagram
- 93) Positive feedback differs from negative feedback because _____. 93) _____
 A) positive feedback tends to enhance the triggering stimulus while negative feedback tends to return the body to a homeostatic balance or "ideal" level
 B) positive feedback provides moment-to-moment wellbeing while negative feedback causes a cascade effect
 C) positive feedback is critical to health while negative feedback serves only to alert us to potential health threats
 D) positive feedback is generally beneficial while negative feedback is typically harmful
- 94) When a baby suckles at its mother's breast the stimulus at the breast is sent to the mother's brain (a region called the hypothalamus). The brain responds by releasing hormones to stimulate the production and the ejection of milk from the breast. This helps the newborn to receive nourishment and encourages more suckling. This example is best described as a _____. 94) _____
 A) loss of homeostasis
 B) positive feedback
 C) negative feedback
 D) necessary life function
- 95) Some of the nerve endings in the skin are sensitive to changes in temperature. They are part of a negative feedback mechanism regulating body temperature. These nerve endings represent a(n) _____ in the negative feedback mechanism. 95) _____
 A) homeostatic balance or "ideal" value
 B) receptor
 C) effector
 D) control center
- 96) You are asked to take a person's heart rate at the popliteal pulse point. You will look for this pulse _____. 96) _____
 A) on the palmar side of the hand
 B) in the distal end of the lower leg
 C) on the posterior side of the knee
 D) at the posterior side of the wrist
- 97) You are told to take an axillary temperature on a small child. You will place the thermometer _____. 97) _____
 A) in the rectum
 B) on the forehead
 C) in the armpit
 D) under the tongue
- 98) You are asked to draw blood from the median cubital vein which is in the antecubital area. You will search for this vein in the _____. 98) _____
 A) anterior side of the elbow
 B) lateral side of the foot
 C) proximal arm
 D) hand
- 99) The thoracic cavity contains the _____. It is found _____ to the vertebral cavity. 99) _____
 A) kidneys and spleen: deep
 B) stomach and liver: superficial
 C) digestive viscera: inferior
 D) heart and lungs: anterior

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

- 100) Similar cells that have a common function are called _____.
- 101) What does the "principle of complementarity of structures and function" mean?
- 102) The term that describes the back of the elbow is _____.
- 103) The term that describes the neck region is _____.
- 104) The heart is _____ to the lungs.
- 105) _____ is explained by chemical and physical principles and is concerned with the function of specific organs or organic systems.
- 106) What is a dynamic equilibrium of your internal environment termed?
- 107) Which cavity contains the bladder, some reproductive organs, and the rectum?
- 108) What is the serous membrane that covers the intestines called?
- 109) What broad term covers all chemical reactions that occur within the body cells?
- 110) What is the function of the serous membranes?
- 111) Can lungs carry out excretory functions? Explain your answer.
- 112) Why is anatomical terminology necessary?
- 113) The ability to sense changes in the environment and respond to them is called _____.
- 114) What is the single most abundant chemical substance in the body?
- 115) Why must a normal body temperature be maintained in order for chemical reactions to be continued at life-sustaining rates?
- 116) What is the pathway between the receptor and the control center in the reflex pathway called?
- 117) What type of homeostatic feedback reflex is the withdrawal reflex?
- 118) Why are the abdominopelvic cavity organs the most vulnerable to blunt deceleration in an automobile accident with seat belts?
- 119) What is the action of all of the negative feedback mechanisms of the body?
- 120) Which feedback mechanism causes the variable to deviate further and further from its original value or range?

- 121) What can happen when the usual negative feedback mechanisms are overwhelmed and destructive positive feedback mechanisms take over?
- 122) Which body system would be most affected by a lower than normal atmospheric pressure?
- 123) Describe the overlap in function between the cardiovascular system and respiratory system. In other words, describe how they work together.
- 124) Describe the overlap in function between the muscular system and skeletal system. In other words, describe how they work together.
- 125) The integumentary system helps to maintain a boundary between the internal and external environment. Give an example of something that is prevented entry to the body and an example of something prevented from escaping the body by the integumentary system.
- 126) Describe the opposing ways that the muscular system and integumentary system act as effectors in the regulation of body temperature.
- 127) A small family was traveling in its van and had a minor accident. The children in the back seats were wearing lap belts, but still sustained numerous bruises about the abdomen, and had some internal organ injuries. Why is this area more vulnerable to damage than others?
- 128) Steve was injured in a football accident. X-ray examination showed a fracture underlying his left brachial deformity. What part of his body was injured?
- 129) Judy is 16 years old and collapses on the gym floor with severe pain in her chest wall every time she takes a deep breath. She is rushed by ambulance to the emergency room. Judy is diagnosed with pleurisy and is given an anti-inflammatory drug through the intravenous route. Explain why an anti-inflammatory drug would be prescribed for someone with pleurisy.
- 130) Sara is giving birth to her first child. She is concerned that her labor is taking longer than she thought it would. Why does giving birth usually take time for the contractions to proceed to the point when the child is born?
- 131) The nurse charted: "Patient has an open wound located on lateral aspect of leg." Describe where the wound is located.

Answer Key

Testname: UNTITLED1

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

Answer Key

Testname: UNTITLED1

- 51) TRUE
- 52) TRUE
- 53) TRUE
- 54) TRUE
- 55) D
- 56) D
- 57) A
- 58) C
- 59) A
- 60) B
- 61) C
- 62) D
- 63) B
- 64) C
- 65) C
- 66) C
- 67) A
- 68) A
- 69) C
- 70) B
- 71) B
- 72) A
- 73) C
- 74) A
- 75) C
- 76) C
- 77) D
- 78) A
- 79) D
- 80) A
- 81) C
- 82) B
- 83) A
- 84) C
- 85) C
- 86) D
- 87) B
- 88) D
- 89) A
- 90) C
- 91) D
- 92) A
- 93) A
- 94) B
- 95) B
- 96) C
- 97) C
- 98) A
- 99) D
- 100) tissues

Answer Key

Testname: UNTITLED1

- 101) What a structure can do depends on its specific form, or "structure determines function."
- 102) olecranal
- 103) cervical
- 104) medial
- 105) Physiology
- 106) homeostasis
- 107) pelvic
- 108) visceral peritoneum
- 109) metabolism
- 110) They act to reduce friction and allow the organs to slide across cavity walls.
- 111) Yes, carbon dioxide is a metabolic waste the lungs excrete.
- 112) Anatomical terms are precise words that have limited usage, which prevents confusion when describing the location of body parts.
- 113) responsiveness or excitability
- 114) water
- 115) If body temperature is too low, chemical reactions slow and eventually stop. If body temperature is too high, chemical reactions speed up and body proteins lose their normal shape, resulting in loss of function.
- 116) afferent pathway
- 117) negative
- 118) The walls of the abdominal cavity are formed only by trunk muscles and are not reinforced by bone. The pelvic organs receive a somewhat greater degree of protection from the bony pelvis.
- 119) They prevent sudden severe changes within the body.
- 120) positive feedback
- 121) Homeostatic imbalances increase our risk for illness and produce the changes we associate with aging.
- 122) respiratory system
- 123) The blood is provided a consistent supply of oxygen from the lungs while the circulatory system delivers carbon dioxide which will be removed from the body by the respiratory system.
- 124) The skeleton provides the ridged frame work (levers) for muscles to attach to. Muscles provide the force to move the bones about the joints.
- 125) The integument prevents entry of pathogens (germs, viruses, bacteria) *or* harmful chemicals. The integumentary system prevents water (body fluid) loss.
- 126) The integument cools the body through sweat while the muscular system warms the body by shivering.
- 127) The abdominal organs are the least protected in the body because they are not surrounded by a bony covering such as the ribs, pelvis, or cranium.
- 128) His left upper arm
- 129) The pleural space contains a small amount of fluid that acts as a lubricant, allowing the pleurae to slide smoothly over each other as the lungs expand and contract. Pleurisy is an inflammation of the pleura around the lungs. When inflammation occurs in the pleural space, the pleurae do not slide smoothly and this causes severe pain that is more directly transmitted by the parietal than the visceral pleura.
- 130) Childbirth is based on the increasing levels of oxytocin that cause the uterine contractions. Under positive feedback, oxytocin levels increase which results in increasing strong contractions by the upper uterus that will ultimately result in the birth of the child. But this positive feedback needs numerous contraction cycles to overcome the muscular resistance to stretching in the lower uterus in order for the head to pass.
- 131) The wound is located on the outer side of the leg, the peroneal or fibular area.