

Exam

Name_____

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

- 1) Close examination of a healthy organ reveals a lining of several layers of cells. The layers do not contain any blood vessels and one surface of the cells lines the cavity of the organ. This tissue is a type of
 - A) neural tissue.
 - B) muscle tissue.
 - C) epithelium.
 - D) connective tissue.
 - E) fat tissue.
- 2) Osseous tissue is also called
 - A) ligament.
 - B) fat.
 - C) cellulite.
 - D) cartilage.
 - E) bone.
- 3) Cells that are flat and thin are classified as
 - A) transitional.
 - B) cuboidal.
 - C) columnar.
 - D) squamous.
 - E) blasts.
- 4) Watery perspiration is an example of a(n) _____ secretion.
 - A) merocrine
 - B) serous
 - C) holocrine
 - D) mucous
 - E) apocrine
- 5) The framework or stroma of organs such as the spleen, liver, and lymph nodes is made up of _____ tissue.
 - A) regular dense connective
 - B) irregular dense connective
 - C) adipose
 - D) reticular connective
 - E) loose connective

6) Which of the following tissues are classified as "connective tissue proper"?

1. areolar connective tissue
2. adipose tissue
3. fibrocartilage
4. dense irregular connective tissue

- A) 1 and 2
- B) 1, 2, and 4
- C) 1, 2, and 3
- D) 3 and 4
- E) 1 and 3

7) Glands that secrete hormones into the interstitial fluid are

- A) interstitial glands.
- B) holocrine glands.
- C) endocrine glands.
- D) exocrine glands.
- E) merocrine glands.

8) Two classes of macrophages include

- A) mast cells and basophils.
- B) fixed macrophages and free macrophages.
- C) microphages and adipocytes.
- D) neutrophils and eosinophils.
- E) mesenchymal cells and melanocytes.

9) The junction type that lets neighboring cells exchange small molecules is the

- A) desmosome.
- B) tight junction.
- C) gap junction.
- D) hemidesmosome.
- E) zonula adherens.

10) The permanent replacement of normal tissue by fibrous tissue is called

- A) apoptosis.
- B) necrosis.
- C) cystosis.
- D) fibrosis.
- E) inflammation.

11) Glands that secrete their product by the bursting of cells are

- A) apocrine glands.
- B) holocrine glands.
- C) merocrine glands.
- D) sudoriferous glands.
- E) endocrine glands.

- 12) Which of these refers to the dense connective tissue that surrounds a muscle and blends with the tendon?
- A) subserous fascia
 - B) superficial fascia
 - C) subcutaneous layer
 - D) hypodermis
 - E) deep fascia
- 13) Unlike cartilage, bone
- A) has an outer covering.
 - B) has cells within lacunae.
 - C) has a matrix that contains collagen.
 - D) is a connective tissue.
 - E) is highly vascular.
- 14) All of the following are true of neurons, except that
- A) when mature, they lose the ability to divide.
 - B) they are separated from one another by synapses.
 - C) they are a very specialized form of connective tissue.
 - D) they conduct a nervous impulse.
 - E) they are composed of a soma and axon.
- 15) Characteristics of epithelia include all of the following except
- A) avascularity.
 - B) extracellular matrix.
 - C) polarity.
 - D) regeneration.
 - E) attachment.
- 16) Which type of connective tissue is found in the trachea and between the ribs and sternum?
- A) fibrous
 - B) areolar
 - C) dense regular
 - D) hyaline cartilage
 - E) elastic
- 17) Germinative cells
- A) cannot divide.
 - B) divide continually to produce new epithelial cells.
 - C) start in the superficial layers of epithelial tissue.
 - D) cannot function in the repair of epithelial tissue.
 - E) make up most of the epithelial type of tissue.
- 18) The dominant fiber type in dense connective tissue is
- A) collagen.
 - B) connectin.
 - C) actin.
 - D) myosin.
 - E) elastin.

- 19) Damage to a joint cartilage is affecting which type of tissue?
- A) dense connective tissue
 - B) supporting connective tissue
 - C) loose connective tissue
 - D) fluid connective tissue
 - E) adipose tissue
- 20) Cartilage is separated from surrounding tissues by a fibrous
- A) matrix.
 - B) periosteum.
 - C) lacunae.
 - D) canaliculi.
 - E) perichondrium.
- 21) Which of the following connective tissue cells produces collagen?
- A) fibroblasts
 - B) adipocytes
 - C) macrophage
 - D) lymphocyte
 - E) mast cell
- 22) Mesothelium is to the body cavities as endothelium is to the
- A) urinary bladder.
 - B) large intestine.
 - C) heart and blood vessels.
 - D) kidneys.
 - E) mouth.
- 23) Epithelial cells exhibit modifications that adapt them for
- A) circulation.
 - B) support.
 - C) contraction.
 - D) secretion.
 - E) conduction.
- 24) Two types of microphages include
- A) fixed macrophages and free macrophages.
 - B) neutrophils and eosinophils.
 - C) microphages and adipocytes.
 - D) mast cells and basophils.
 - E) mesenchymal cells and melanocytes.
- 25) Blood is which type of tissue?
- A) mesenchyme
 - B) connective
 - C) muscle
 - D) nerve
 - E) epithelial

- 26) Water loss due to evaporation of fluid that has penetrated through the skin is termed _____ perspiration.
- A) sensible
 - B) insensible
 - C) active
 - D) inactive
 - E) latent
- 27) An albino individual lacks the ability to produce
- A) keratin.
 - B) carotene.
 - C) perspiration.
 - D) eleidin.
 - E) melanin.
- 28) While assessing a patient, you discover that after pinching the skin on the back of the hand, it remains peaked. This is a sign of
- A) hydration intoxication.
 - B) malfunctioning elastin.
 - C) advanced skin cancer.
 - D) water intoxication.
 - E) dehydration.
- 29) Glands that discharge an oily secretion into hair follicles are _____ glands.
- A) mammary
 - B) apocrine sweat
 - C) sebaceous
 - D) ceruminous
 - E) merocrine sweat

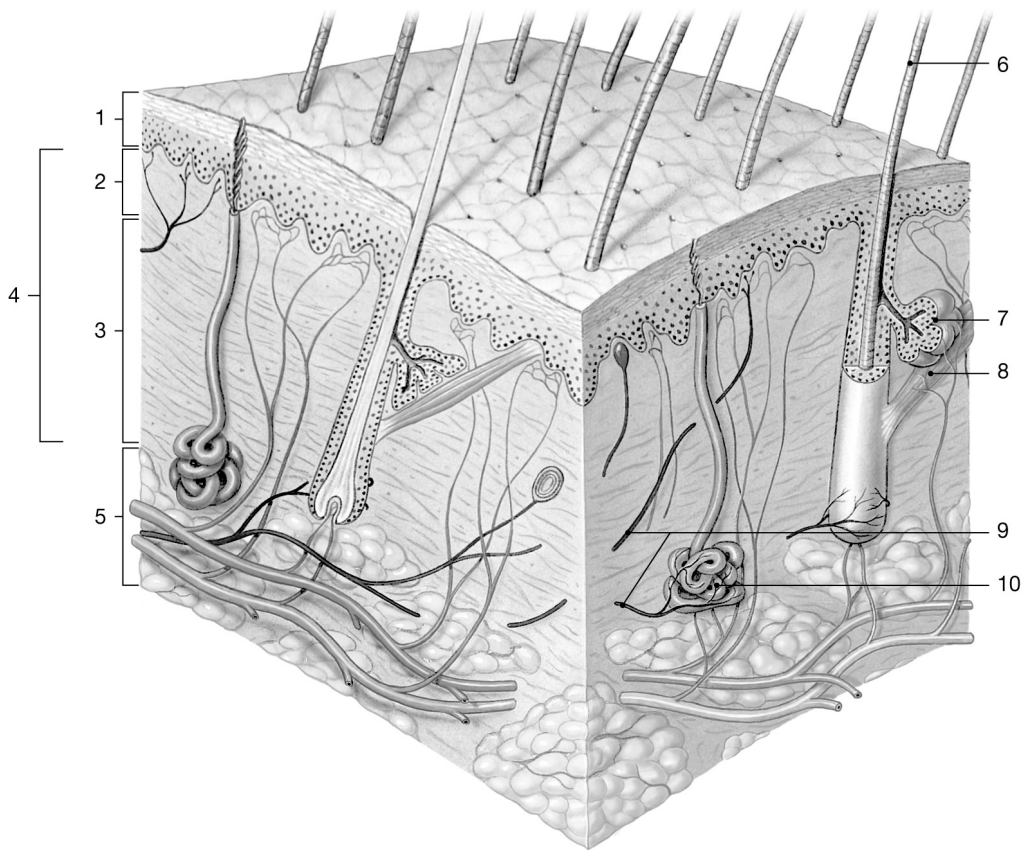


Figure 5-1 The Components of the Integumentary System

Use Figure 5-1 to answer the following questions:

30) From what structure does sensible perspiration occur?

- A) 6
- B) 7
- C) 8
- D) 9
- E) 10

31) Characteristics of the epidermis include:

- A) serves as UV radiation protection
- B) multilayered
- C) flexible
- D) contains desmosomes
- E) All of the answers are correct.

32) Thin skin contains _____ layer(s) of keratinocytes, and thick skin contains _____ layers.

- A) 3; 4
- B) 1; 2
- C) 5; 6
- D) 2; 3
- E) 4; 5

- 33) Which of the following statements about rickets is not true?
- A) prevented by vitamin D
 - B) is usually genetic
 - C) prevented by sunlight
 - D) leads to weak bones
 - E) leads to skeletal deformity
- 34) The type of cells that form the strata in the epidermis are
- A) melanocytes.
 - B) keratinocytes.
 - C) dendritic cells.
 - D) adipocytes.
 - E) fibroblasts.
- 35) Which statement about hairs is false?
- A) Vellus hairs are on the limbs of children until puberty.
 - B) Club hairs are ingrown hairs.
 - C) Terminal hairs are in the axilla.
 - D) Eyebrows are terminal hairs.
 - E) A terminal hair can detach but remain in the hair follicle as a club hair.
- 36) All of the following are true of the pigment melanin, except that it
- A) is usually some shade of brown or black.
 - B) is produced from the amino acid tyrosine.
 - C) is produced by cells called melanocytes.
 - D) decreases in concentration within cells during exposure to the sun.
 - E) protects DNA from the damaging effects of UV radiation.
- 37) The protein that reduces water loss at the skin surface is
- A) eleidin.
 - B) collagen.
 - C) keratin.
 - D) melanin.
 - E) mucin.

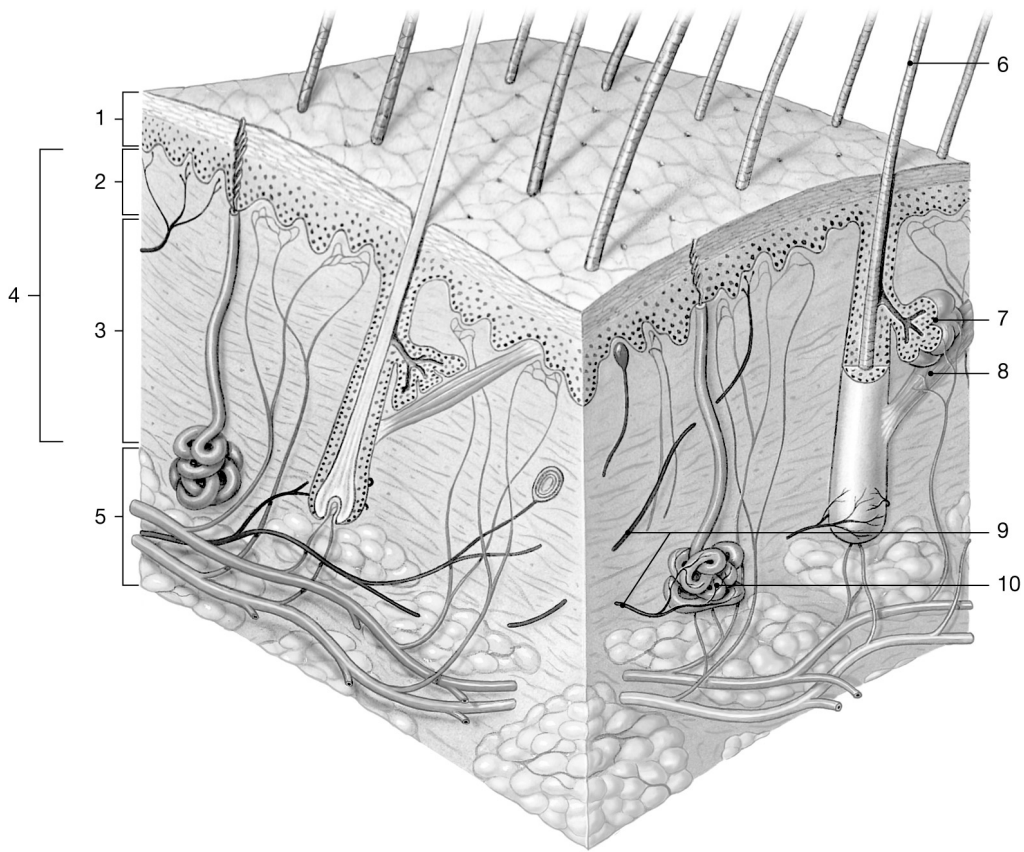


Figure 5-1 The Components of the Integumentary System

Use Figure 5-1 to answer the following questions:

- 38) Which tissue is located in the region labeled "2"?
- A) adipose tissue
 - B) reticular connective tissues
 - C) areolar connective tissue
 - D) cartilage and blood
 - E) stratified squamous epithelium
- 39) Each of the following is a function of the integumentary system, except
- A) excretion of salts and wastes.
 - B) protection of underlying tissue.
 - C) maintenance of body temperature.
 - D) synthesis of vitamin C.
 - E) provision of sensation.

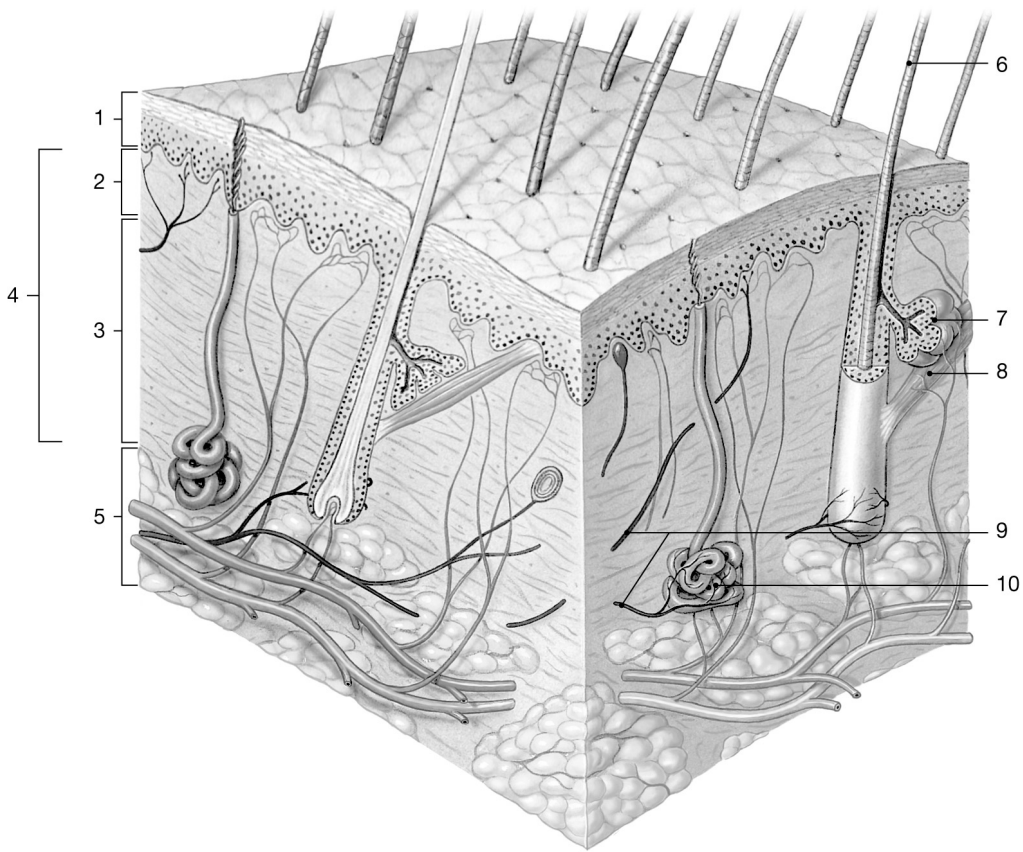


Figure 5-1 The Components of the Integumentary System

Use Figure 5-1 to answer the following questions:

40) An intradermal injection is administered into which layer?

- A) 1
- B) 2
- C) 3
- D) 4
- E) 5

41) Merocrine sweat glands

- A) produce organic secretions that are metabolized by bacteria to produce body odor.
- B) are compound alveolar glands.
- C) primarily function in lubricating the hairs.
- D) increase in number and activity with aging.
- E) secrete a watery fluid directly onto the surface of the skin.

42) Skin can regenerate effectively even after considerable damage has occurred because

- A) the epidermis of the skin has a rich supply of small blood vessels.
- B) fibroblasts in the dermis can give rise to new germinal cells in the epidermis.
- C) stem cells persist in both epithelial and connective-tissue components of the skin even after injury.
- D) cells of the stratum germinativum cannot migrate to other positions in the skin.
- E) contraction in the area of the injury brings cells of adjacent strata together.

- 43) A common cause of dandruff is
- A) inflammation around sebaceous glands.
 - B) inactive apocrine glands.
 - C) lack of sebaceous glands.
 - D) inactive eccrine glands.
 - E) too many sebaceous glands.
- 44) Children in northern regions experience months of inadequate sunlight exposure on the skin. To prevent possible abnormal bone development, what essential organic nutrient is necessary in the diet?
- A) cholecalciferol
 - B) protein
 - C) melanin
 - D) vitamin C
 - E) calcium
- 45) Which of the following is not an effect of ultraviolet radiation?
- A) vitiligo
 - B) increased activity by melanocytes
 - C) wrinkles
 - D) chromosomal damage in germinative cells or melanocytes
 - E) production of cholecalciferol within epidermal cells
- 46) Nail production occurs at the nail
- A) bed.
 - B) body.
 - C) root.
 - D) cuticle.
 - E) hyponychium.
- 47) The primary pigments contained in the epidermis are
- A) melanin and chromatin.
 - B) carotene and melanin.
 - C) melanin and chlorophyll.
 - D) xanthophyll and melanin.
 - E) carotene and xanthophyll.
- 48) _____ are cells in the epidermis that are part of the immune system.
- A) Melanocytes
 - B) Dendritic cells
 - C) Squamous cells
 - D) Merkel cells
 - E) Basal cells
- 49) Each of the following statements concerning hair is true, except one. Identify the exception.
- A) Terminal hairs are heavy and more darkly pigmented than other types of hair.
 - B) The cortex of the hair is composed of hard keratin.
 - C) The medulla is the soft core of the hair.
 - D) Scalp hairs grow constantly throughout life.
 - E) Club hair is hair that has ceased growing.

- 50) The nail body covers the
- A) free edge.
 - B) nail root.
 - C) nail bed.
 - D) lunula.
 - E) hyponychium.
- 51) Bone tissue formation begins when osteoblasts secrete
- A) hydroxyapatite.
 - B) mesenchyme.
 - C) collagen fibers.
 - D) silica.
 - E) calcium.
- 52) The interconnecting tiny arches of bone tissue found in spongy bone are called
- A) lacunae.
 - B) osteons.
 - C) interstitial lamellae.
 - D) trabeculae.
 - E) concentric lamellae.
- 53) The layers of bone tissue immediately deep to the periosteum are
- A) epiphseal ridges.
 - B) circumferential lamellae.
 - C) trabeculae.
 - D) osteoid plates.
 - E) concentric lamellae.
- 54) _____ marrow is found between the trabeculae of spongy bone.
- A) White
 - B) Blue
 - C) Gray
 - D) Red
 - E) Yellow
- 55) Secondary ossification centers occur
- A) in dermal bones.
 - B) in the metaphyses.
 - C) at the periosteum.
 - D) in the epiphyses.
 - E) in the diaphysis.
- 56) Endochondral ossification begins with the formation of a(n)
- A) calcified model.
 - B) fibrous connective-tissue model.
 - C) cartilage model.
 - D) membranous model.
 - E) osteoblasts model.

- 57) After a fracture of the diaphysis has healed, the thickened region that results is called the
- A) fracture facet.
 - B) external callus.
 - C) epiphyseal plate.
 - D) condyle.
 - E) dense tuberosity.
- 58) The disease osteomalacia causes calcium loss from the skeleton, which would result in bones that are
- A) stronger and heavier.
 - B) weaker and more brittle.
 - C) stronger and contain more spongy bone.
 - D) weaker and more flexible.
 - E) more resistant to compression.
- 59) The structural units of mature compact bone are called
- A) lacunae.
 - B) osteocytes.
 - C) lamellae.
 - D) osteons.
 - E) canaliculi.
- 60) Excessive growth hormone prior to puberty could result in
- A) rickets.
 - B) osteoporosis.
 - C) dwarfism.
 - D) gigantism.
 - E) osteopenia.
- 61) A rib is an example of a _____ bone.
- A) long
 - B) sesamoid
 - C) flat
 - D) sutural
 - E) short
- 62) The space occupied by an osteocyte is called a
- A) Volkmann's canal.
 - B) Venetian canal.
 - C) lacuna.
 - D) trabecula.
 - E) Haversian canal.
- 63) The central canal of an osteon contains
- A) concentric lamellae.
 - B) lacunae.
 - C) blood vessels.
 - D) osteocytes.
 - E) bone marrow.

- 64) Elevated levels of calcium ion in the blood stimulate the secretion of the hormone
- A) growth hormone.
 - B) thyroid hormone.
 - C) calcitonin.
 - D) testosterone.
 - E) parathyroid hormone.
- 65) When cartilage is produced at the epiphyseal side of the metaphysis at the same rate as bone is deposited on the opposite side, bones
- A) grow wider.
 - B) become more porous and weaker.
 - C) become shorter.
 - D) grow longer.
 - E) become thicker.
- 66) How would removing hydroxyapatite from bone matrix affect the physical properties of a bone?
- A) The bone would be more brittle.
 - B) The bone would be more flexible.
 - C) The bone would be stronger.
 - D) The bone would be less compressible.
 - E) The bone would be less flexible.
- 67) The lining of the medullary cavity is called the
- A) perimysium.
 - B) endosteum.
 - C) epimysium.
 - D) perichondrium.
 - E) periosteum.
- 68) The femur can withstand _____ times the body weight without breaking.
- A) 10 to 15
 - B) 8
 - C) 5 to 10
 - D) 3
 - E) 30
- 69) Bone plays a central role in the regulation of blood levels of
- A) iron.
 - B) sodium.
 - C) calcium.
 - D) potassium.
 - E) sulfate.
- 70) Why does osteoporosis affect more women than men?
- A) Women have a decrease in sex hormones after menopause whereas men continue to produce male sex hormones throughout adulthood.
 - B) Women typically do not get enough calcium in their diet.
 - C) Men do not remodel the skeleton as fast as women.
 - D) Men exercise more than women and therefore have less osteoporosis.
 - E) Pregnancy causes deossification of bones in women and will lead to osteoporosis.

- 71) A fracture at the ankle involving both lower leg bones is often called a _____ fracture.
- A) greenstick
 - B) Pott
 - C) Colles
 - D) compression
 - E) displaced
- 72) A lack of exercise could
- A) cause bones to store more calcium.
 - B) cause bones to lose their medullary cavity.
 - C) result in porous and weak bones.
 - D) cause bones to become longer.
 - E) cause bones to become thicker.
- 73) The lacunae of osseous tissue contain
- A) osteocytes.
 - B) chondroblasts.
 - C) blood cells.
 - D) capillaries.
 - E) bone marrow.
- 74) When production of sex hormones increases at puberty, epiphyseal plates
- A) become narrower.
 - B) are hardly affected.
 - C) increase slowly.
 - D) get wider.
 - E) accelerate rapidly, but mostly in thickness.
- 75) Small, oddly shaped bones that fill gaps between bones of the skull are called _____ bones.
- A) irregular
 - B) sesamoid
 - C) tendon
 - D) sagittal
 - E) sutural
- 76) While performing cardiopulmonary resuscitation (CPR) on an unconscious person, you are careful to position your hands correctly to avoid damage to the
- A) xiphoid process.
 - B) sacrum.
 - C) scapula.
 - D) ribs and xiphoid process.
 - E) ribs.

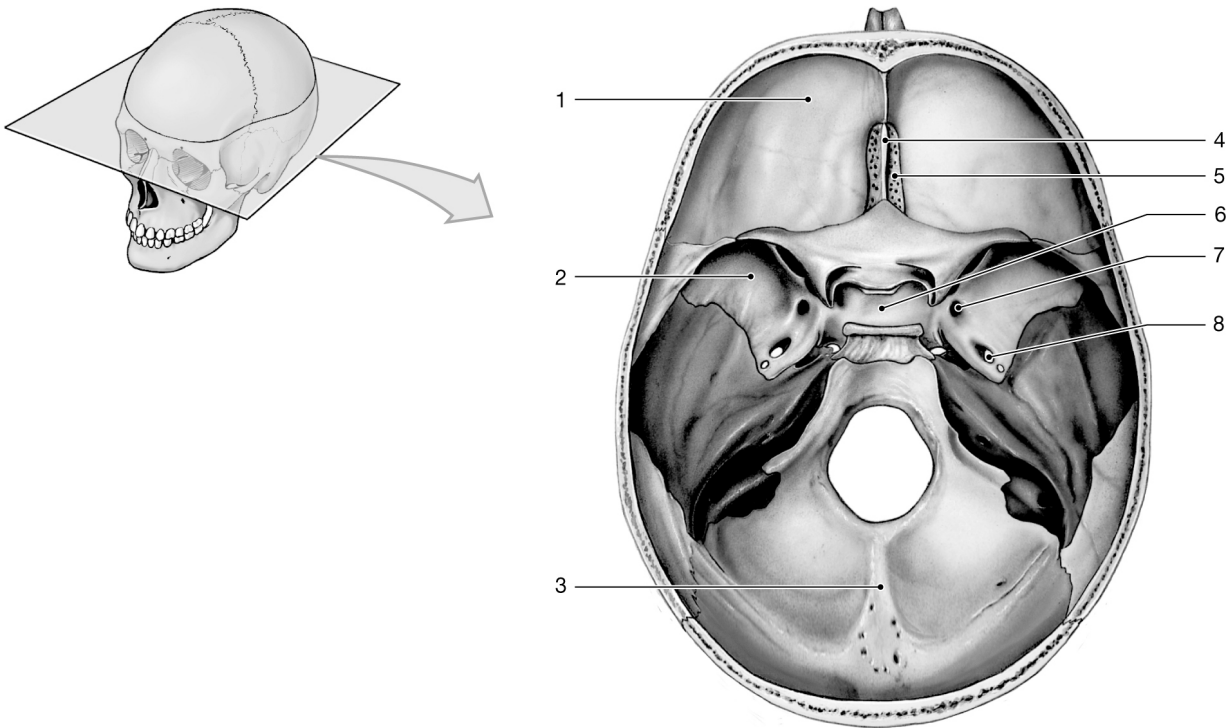


Figure 7-1 Floor of the Cranial Cavity

Use Figure 7-1 to answer the following questions:

77) What is the name of the structure labeled "8"?

- A) foramen spinosum
- B) foramen ovale
- C) sella turcica
- D) foramen rotundum
- E) carotid canal

78) Humans normally have _____ pairs of ribs.

- A) 6
- B) 2
- C) 10
- D) 24
- E) 12

79) Damage to the temporal bone would most likely affect the sense(s) of

- A) hearing and balance.
- B) balance.
- C) smell and taste.
- D) touch.
- E) vision.

- 80) While playing softball, Gina is struck in the frontal squama by a wild pitch. Which of the following complaints would you expect her to have?
- A) a headache
 - B) a broken jaw
 - C) a sore back
 - D) a black eye
 - E) a sore chest
- 81) Which of the following is a function of the axial skeleton?
- A) provides an attachment for muscles that move the head, neck, and trunk
 - B) provides an attachment for muscles involved in respiration
 - C) provides an attachment for muscles that move the appendicular skeleton
 - D) provides protection for the brain and spinal cord
 - E) All of the answers are correct.
- 82) The vertebral arch is formed by the pedicles and the
- A) dorsal spinous processes.
 - B) laminae.
 - C) costal facets.
 - D) transverse spinous processes.
 - E) intervertebral disc.
- 83) How many bones make up the axial skeleton?
- A) 50
 - B) 60
 - C) 70
 - D) 80
 - E) 90
- 84) The widest intervertebral discs are found in the _____ region.
- A) lumbar
 - B) coccygeal
 - C) sacral
 - D) thoracic
 - E) cervical
- 85) The role(s) of the sinuses include(s):
- A) production of mucus that moistens and cleans the air
 - B) release of stress hormones
 - C) making the skull lighter and production of mucus that moistens and cleans the air
 - D) extra source of air
 - E) making the skull lighter
- 86) The four curves of the adult spinal column are not all present at birth. Which of the following are the secondary curves, those that do not appear until several months later?
- A) cervical and sacral
 - B) cervical and lumbar
 - C) sacral and lumbar
 - D) thoracic and sacral
 - E) thoracic and lumbar

87) Which statement(s) about the functions of the paranasal sinuses is/are true?

- A) The mucus they secrete enters the nasal cavities.
- B) They support cilia that move the mucus.
- C) They make skull bones lighter.
- D) They provide an extensive area of mucous epithelium.
- E) All of the answers are correct.

88) Each of the following structures is associated with the sphenoid bone, except the

- A) foramen ovale.
- B) sella turcica.
- C) optic canals.
- D) cribriform plate.
- E) pterygoid processes.

89) Lumbar vertebrae are _____ massive and _____ mobile.

- A) most; least
- B) least; most
- C) most; most
- D) least; least
- E) not; excessively

90) The part of the sternum that articulates with the clavicles is the

- A) angle.
- B) xiphoid process.
- C) body.
- D) tuberculum.
- E) manubrium.

91) As you move in an inferior direction along the vertebral column,

- A) the dorsal spines grow progressively longer.
- B) the vertebral bodies become relatively larger.
- C) the vertebrae get progressively smaller and thinner.
- D) the transverse processes move anteriorly.
- E) the vertebral foramina become relatively larger.

92) The sternum contains

- A) the jugular notch.
- B) the xiphoid process.
- C) the manubrium.
- D) the body.
- E) All of the answers are correct.

93) Ridges that anchor muscles that stabilize the head are the

- A) anterior and superior nuchal lines.
- B) inferior and superior nuchal lines.
- C) medial and lateral nuchal lines.
- D) anterior and posterior nuchal lines.
- E) cranial and caudal nuchal lines.

- 94) A point of attachment for muscles that rotate or extend the head is the
- A) styloid process.
 - B) articular tubercle.
 - C) mastoid process.
 - D) medial concha.
 - E) posterior clinoid process.
- 95) The most significant skull growth occurs before the age of
- A) 4.
 - B) 3.
 - C) 5.
 - D) 1.
 - E) 2.
- 96) Which of these types of vertebrae and their numbers is not correct?
- A) cervical: 7
 - B) thoracic: 12
 - C) lumbar: 5
 - D) coccygeal: 3 to 5
 - E) sacral: 1
- 97) The occipital condyles of the skull articulate with the
- A) mandible.
 - B) first thoracic vertebra.
 - C) occipital bone.
 - D) axis.
 - E) atlas.
- 98) The facial nerve (N. VII) passes through internal acoustic meatus and then through the
- A) carotid foramen.
 - B) foramen lacerum.
 - C) stylomastoid foramen.
 - D) jugular foramen.
 - E) mastoid foramen.
- 99) Each of the following bones is a component of the orbital complex, except the _____ bone.
- A) frontal
 - B) nasal
 - C) ethmoid
 - D) sphenoid
 - E) lacrimal
- 100) A tubercle of a rib articulates with
- A) the costal facets of thoracic vertebrae.
 - B) the cervical and thoracic vertebrae.
 - C) the manubrium.
 - D) the xiphoid process.
 - E) the hyoid.