Multiple-Choice Questions

1) The term *general senses* refers to sensations of
A) hot and cold.
B) pain.
C) touch and vibration.
D) both B and C
E) all of the above
Answer: E
Diff: 1
Learning Outcome: 9.1
Skill Level: 1 Reviewing Facts and Terms

2) The special senses are
A) olfaction.
B) vision.
C) gustation.
D) equilibrium.
E) all of the above
Answer: E
Diff: 1
Learning Outcome: 9.1
Skill Level: 1 Reviewing Facts and Terms

3) The fading of a smell some time after you enter a room is an example of experiencing
A) sensory adaptation.
B) damage to receptors.
C) a change in temperature.
D) a change in concentration of the odor.
E) all of the above
Answer: A
Diff: 1
Learning Outcome: 9.1
Skill Level: 1 Reviewing Facts and Terms
4) Our perception of the environment is incomplete because
A) humans do not have receptors for every possible stimulus.
B) our receptors have ranges of sensitivity.
C) all of our awareness of the environment must be learned.
D) A and B only
E) all of the above
Answer: D
Learning Outcome: 9.1
Skill Level: 1 Reviewing Facts and Terms

5) Only about ________ percent of the information provided by afferent fibers reaches the cerebral cortex and conscious awareness.
A) 1
B) 3
C) 5
D) 8
E) 12
Answer: A
Learning Outcome: 9.1
Skill Level: 1 Reviewing Facts and Terms

6) Pain receptors
A) reduce in sensitivity in the presence of a constant stimulus.
B) increase in sensitivity in the presence of a constant stimulus.
C) are stimulated by things that cause tissue damage.
D) adapt rapidly.
E) are widely distributed in all tissues.
Answer: C
Learning Outcome: 9.2
Skill Level: 1 Reviewing Facts and Terms

7) Nociceptors are sensitive to
A) pain.
B) light touch.
C) pressure.
D) osmotic pressure.
E) blood pressure.
Answer: A
Learning Outcome: 9.2
Skill Level: 1 Reviewing Facts and Terms
8) The perception of pain coming from parts of the body that are not actually stimulated is called
A) preferential pain.
B) recalcitrant pain.
C) actual pain.
D) referred pain.
E) slow pain.
Answer: D
Diff: 1
Learning Outcome: 9.2
Skill Level: 1 Reviewing Facts and Terms

9) Olfactory receptors are examples of
A) pain receptors.
B) thermoreceptors.
C) mechanoreceptors.
D) chemoreceptors.
E) proprioceptors.
Answer: D
Diff: 1
Learning Outcome: 9.2
Skill Level: 1 Reviewing Facts and Terms

10) Sensory receptors that monitor the position of joints are called
A) nociceptors.
B) chemoreceptors.
C) baroreceptors.
D) proprioceptors.
E) thermoreceptors.
Answer: D
Diff: 1
Learning Outcome: 9.2
Skill Level: 1 Reviewing Facts and Terms

11) Sensory receptors that respond to changes in blood pressure are called
A) nociceptors.
B) baroreceptors.
C) chemoreceptors.
D) proprioceptors.
E) thermoreceptors.
Answer: B
Diff: 1
Learning Outcome: 9.2
Skill Level: 1 Reviewing Facts and Terms
12) Chemoreceptors are located in the
A) carotid and aortic bodies.
B) special senses of taste and smell.
C) respiratory control center of the medulla.
D) A and B only
E) all of the above
Answer: E
Diff: 1
Learning Outcome: 9.2
Skill Level: 1 Reviewing Facts and Terms

13) The Golgi tendon organ is stimulated more when
A) muscles are metabolically active and produce oxygen.
B) muscle tension increases.
C) muscle tension decreases.
D) muscle length increases.
E) oxygen is depleted.
Answer: B
Diff: 1
Learning Outcome: 9.2
Skill Level: 1 Reviewing Facts and Terms

14) Muscle spindles are stimulated more when
A) muscle tension decreases.
B) muscle tension increases.
C) muscle length decreases.
D) muscles use oxygen.
E) muscles use glycogen.
Answer: A
Diff: 1
Learning Outcome: 9.2
Skill Level: 1 Reviewing Facts and Terms

15) Temperature senses use two types of
A) chemoreceptors.
B) free nerve endings.
C) proprioceptors.
D) tactile corpuscles.
E) lamellated corpuscles.
Answer: B
Diff: 1
Learning Outcome: 9.2
Skill Level: 1 Reviewing Facts and Terms
16) Which of the following contains pain receptors?
A) meninges
B) blood vessels in the brain
C) neural tissue
D) both A and B
E) both B and C
Answer: D
Diff: 1
Learning Outcome: 9.2
Skill Level: 1 Reviewing Facts and Terms

17) Olfactory glands
A) contain the neural receptors for the sense of smell.
B) form the basement membrane of the olfactory epithelium.
C) are sensitive to aromatic molecules in the air.
D) produce a pigmented mucus that covers the olfactory epithelium.
E) form structures called olfactory bulbs.
Answer: D
Diff: 1
Learning Outcome: 9.3
Skill Level: 1 Reviewing Facts and Terms

18) Which of the following concerning olfaction is false?
A) Olfactory receptors are highly modified neurons.
B) Molecules to be smelled must first dissolve in the mucus covering the olfactory receptors.
C) Humans may have as many as 20 million olfactory receptors.
D) Human power of olfaction is as powerful as that of most other mammals.
E) Olfactory stimuli do not pass through the thalamus before journeying to the olfactory cortex.
Answer: D
Diff: 1
Learning Outcome: 9.3
Skill Level: 1 Reviewing Facts and Terms

19) An example of neuronal replacement in the adult human involves the
A) gustatory receptors.
B) nociceptors.
C) pain receptors.
D) olfactory receptors.
E) retinal cells.
Answer: D
Diff: 1
Learning Outcome: 9.3
Skill Level: 2 Reviewing Concepts
20) Which of the following is a primary taste sensation?
A) sweet
B) putrid
C) pungent
D) metallic
E) fruity
Answer: A
Diff: 1
Learning Outcome: 9.4
Skill Level: 1 Reviewing Facts and Terms

21) There are ________ primary taste sensations.
A) 2
B) 4
C) 12
D) 20
E) more than 50
Answer: B
Diff: 1
Learning Outcome: 9.4
Skill Level: 1 Reviewing Facts and Terms

22) Taste receptors are
A) found only on the tongue.
B) unable to divide.
C) modified neural cells.
D) modified epithelial cells.
E) none of the above
Answer: D
Diff: 1
Learning Outcome: 9.4
Skill Level: 1 Reviewing Facts and Terms

23) Taste buds are monitored by cranial nerves
A) IX, X, and XI.
B) VII, VIII, and IX.
C) VII, IX, and X.
D) V, VII, and IX.
E) IX, XI, and XII.
Answer: C
Diff: 1
Learning Outcome: 9.4
Skill Level: 1 Reviewing Facts and Terms
24) The function of gustatory receptors parallels that of  
A) light receptors in the eye.  
B) mechanoreceptors in the ear.  
C) olfactory receptors in the nose.  
D) nociceptors.  
E) baroreceptors.  
Answer: C  
Diff: 1  
Learning Outcome: 9.4  
Skill Level: 1 Reviewing Facts and Terms

25) The lacrimal glands  
A) are located in pockets in the frontal bones.  
B) produce most of the volume of tears.  
C) produce a slightly acidic secretion that contains lysozyme.  
D) A and B only  
E) all of the above  
Answer: D  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms

26) The fibrous tunic of the eye  
A) consists of the sclera and the cornea.  
B) provides mechanical support and some protection for the eye.  
C) serves as a point of attachment for extrinsic eye muscles.  
D) A and C only  
E) all of the above  
Answer: E  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms

27) Which of the following extrinsic eye muscles is responsible for enabling the eye to look upward?  
A) inferior rectus  
B) medial rectus  
C) superior rectus  
D) inferior oblique  
E) superior oblique  
Answer: C  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms
28) Which of the following extrinsic eye muscles is responsible for rotating the eye laterally?  
A) inferior rectus  
B) inferior oblique  
C) lateral rectus  
D) medial rectus  
E) superior rectus  
Answer: C  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms

29) Which of the following is part of the inner tunic of the eye?  
A) lateral rectus muscle  
B) iris  
C) retina  
D) sclera  
E) conjunctiva  
Answer: C  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms

30) A structure that is located at the medial canthus and contains glands that produce a gritty secretion is the  
A) superior eye lid.  
B) lacrimal caruncle.  
C) conjunctiva.  
D) tear gland.  
E) sclera.  
Answer: B  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms

31) The vitreous body  
A) contains the lens.  
B) helps to stabilize the eye and give physical support to the retina.  
C) contains blood vessels that nourish the retina.  
D) is located between the lens and the iris.  
E) all of the above  
Answer: B  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms
32) The transparent portion of the eye is the
A) conjunctiva.
B) cornea.
C) iris.
D) pupil.
E) canthus.
Answer: B
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

33) The pigmented portion of the eye is the
A) conjunctiva.
B) cornea.
C) iris.
D) pupil.
E) canthus.
Answer: C
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

34) The space between the iris and the cornea is the
A) anterior chamber.
B) posterior chamber.
C) pupil.
D) aqueous humor.
E) vitreous body.
Answer: A
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

35) The space between the suspensory ligaments and the iris is the
A) anterior chamber.
B) posterior chamber.
C) pupil.
D) vitreous body.
E) posterior cavity.
Answer: B
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms
36) The lens focuses light on the photoreceptor cells by
A) moving up and down.
B) moving in and out.
C) changing shape.
D) opening and closing.
E) dilating and constricting.
Answer: C
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

37) The shape of the lens is controlled by the
A) pupillary constrictor muscles.
B) pupillary dilator muscles.
C) ciliary muscles.
D) suspensory ligaments.
E) aqueous body.
Answer: C
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

38) The ciliary muscle helps to
A) control the amount of light reaching the retina.
B) control the shape of the lens.
C) control the production of aqueous humor.
D) move the eyeball.
E) both A and B
Answer: B
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

39) A sudden flash of bright light would
A) cause contraction of the pupillary constrictor muscles.
B) cause contraction of the pupillary dilator muscles.
C) cause relaxation of the ciliary body.
D) cause relaxation of the ciliary ligaments.
E) increase the size of the iris.
Answer: A
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms
40) When viewing an object close to you, your lens should be more
A) rounded.
B) flattened.
C) convex.
D) lateral.
E) medial.
Answer: A  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms

41) The anterior cavity is
A) hollow.
B) filled with aqueous humor.
C) filled by the vitreous body.
D) filled with perilymph.
E) filled with endolymph.
Answer: B  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms

42) Visual acuity is also known as
A) nearsightedness.
B) farsightedness.
C) myopia.
D) astigmatism.
E) clarity of vision.
Answer: E  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms

43) Nearsightedness is more properly called
A) diabetes mellitus.
B) myopia.
C) retinal detachment.
D) hyperopia.
E) glaucoma.
Answer: B  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms
44) Loss of lens transparency is referred to as
A) a cataract.
B) glaucoma.
C) myopia.
D) accommodation.
E) corneal scarring.
Answer: A
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

45) Normal eye focusing is termed
A) hyperopia.
B) myopia.
C) presbyopia.
D) emmetropia.
E) refraction.
Answer: D
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

46) A blind spot in the retina occurs where
A) the fovea is located.
B) ganglion cells synapse with bipolar cells.
C) the optic nerve attaches to the retina.
D) rod cells are clustered to form the macula.
E) amacrine cells are located.
Answer: C
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

47) The lens of the eye thickens when the
A) conjunctiva contracts.
B) ciliary muscles relax.
C) ciliary muscles contract.
D) ciliary processes contract.
E) suspensory ligaments pull on the lens.
Answer: B
Diff: 1
Learning Outcome: 9.5
Skill Level: 2 Reviewing Concepts
48) Treatment of a cataract usually involves removal of the
A) cornea.
B) iris.
C) lens.
D) sclera.
E) vitreous humor.
Answer: C
Diff: 1
Learning Outcome: 9.5
Skill Level: 3 Critical Thinking & Clinical Applications

49) Night blindness can be treated by administering
A) vitamin A.
B) vitamin D.
C) vitamin E.
D) vitamin K.
E) vitamin C.
Answer: A
Diff: 1
Learning Outcome: 9.5
Skill Level: 3 Critical Thinking & Clinical Applications

50) There are three different types of cones, each one sensitive to a different color wavelength of light. These cones are designated
A) red, yellow, and blue.
B) red, blue, and green.
C) red, green, and yellow.
D) yellow, green, and blue.
E) red, yellow, and indigo.
Answer: B
Diff: 1
Learning Outcome: 9.6
Skill Level: 1 Reviewing Facts and Terms

51) When all three cone populations are stimulated, one sees
A) red.
B) blue.
C) green.
D) white.
E) black.
Answer: D
Diff: 1
Learning Outcome: 9.6
Skill Level: 1 Reviewing Facts and Terms
52) Rhodopsin is found in
A) rods.
B) cones.
C) visual pigments.
D) sodium pumps.
E) neurotransmitters.
Answer: A
Diff: 1
Learning Outcome: 9.6
Skill Level: 1 Reviewing Facts and Terms

53) The daily day/night cycle known as a circadian rhythm is established in the
A) lateral geniculates.
B) medial geniculates.
C) pineal gland.
D) hypothalamus.
E) both A and C
Answer: E
Diff: 1
Learning Outcome: 9.6
Skill Level: 1 Reviewing Facts and Terms

54) As nerve fibers from the retina travel to the brain, axons from the
A) nasal half of each eye cross over.
B) otic half of each eye cross over.
C) retinas of both eyes do NOT cross over.
D) retinas of both eyes ALL cross over.
E) none of the above
Answer: A
Diff: 1
Learning Outcome: 9.6
Skill Level: 1 Reviewing Facts and Terms

55) Visual pigments are derivatives of
A) rhodopsin.
B) opsin.
C) retinal.
D) both A and B
E) all of the above
Answer: A
Diff: 1
Learning Outcome: 9.6
Skill Level: 1 Reviewing Facts and Terms
56) The color receptors within the retina are sensitive to lights that are
A) red, blue, and green.
B) red, green, and yellow.
C) red, blue, and yellow.
D) red, blue, green, and yellow.
E) orange, green, and purple.
Answer: A
Diff: 1
Learning Outcome: 9.6
Skill Level: 1 Reviewing Facts and Terms

57) Stereoscopic vision results when the
A) images in both eyes are identical.
B) images in each eye are slightly different.
C) rods of one eye are stimulated, and cones are stimulated in the other.
D) brain interprets the images and alters them.
E) none of the above
Answer: B
Diff: 1
Learning Outcome: 9.6
Skill Level: 1 Reviewing Facts and Terms

58) A device that monitors the activity of the photoreceptor cells of the eye indicates that there is a constant flow of neurotransmitter being released by the photoreceptor cells. This information implies that the subject is
A) reading.
B) in a dark room.
C) outside in sunlight.
D) in a brightly lit auditorium.
E) focusing on a distant object.
Answer: B
Diff: 2
Learning Outcome: 9.6
Skill Level: 2 Reviewing Concepts

59) As a result of the tympanic reflex,
A) the auditory ossicles amplify the signal.
B) the auditory ossicles vibrate more forcefully.
C) vibrations are more efficient.
D) vibrations are less efficient.
E) all of the above
Answer: D
Diff: 1
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms
60) The hearing receptors are located in the
A) ampulla.
B) organ of Corti.
C) utricle.
D) saccule.
E) semicircular canals.
Answer: B
Diff: 1
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms

61) The range of the human ear is about
A) 2–2,000 Hertz.
B) 20–2,000 Hertz.
C) 20–20,000 Hertz.
D) 2,000–3,000 Hertz.
E) 2,000–200,000 Hertz.
Answer: B
Diff: 1
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms

62) The sensory receptors of the semicircular canals are located in the
A) saccules.
B) ampullae.
C) cristae.
D) utricles.
E) both A and D
Answer: B
Diff: 1
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms

63) Movement of the sensory receptors in the ampullae of the semicircular canals
A) produces sound.
B) allows us to hear sounds.
C) stimulates the receptor cells, alerting us to rotational movement.
D) stimulates the receptor cells to a change in body position with respect to gravity.
E) allows us to perceive linear acceleration.
Answer: C
Diff: 1
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms
64) The branch of the cranial nerve that is responsible for monitoring changes in equilibrium is the ________ branch.
A) otoconial
B) cochlear
C) vestibular
D) trigeminal
E) auditory
Answer: C
Diff: 1
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms

65) Which descending pathway in the spinal cord is responsible for carrying reflex information maintaining postural muscle tone?
A) vestibulospinal
B) corticospinal
C) medial and lateral pathways
D) posterior column
E) spinocerebellar
Answer: A
Diff: 1
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms

66) The ossicles connect the
A) tympanic membrane to the oval window.
B) tympanic membrane to the round window.
C) oval window to the round window.
D) cochlea to the tympanic membrane.
E) cochlea to the oval window.
Answer: A
Diff: 1
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms

67) Sound waves are converted into mechanical movements by the
A) auditory ossicles.
B) cochlea.
C) oval window.
D) round window.
E) tympanic membrane.
Answer: E
Diff: 1
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms
68) The smallest ossicle is the
A) malleus.
B) cochlea.
C) stapes.
D) incus.
E) tympanic membrane.
Answer: C
Diff: 1
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms

69) A structure that allows the middle ear to communicate with the nasopharynx is the
A) pinna.
B) vestibular duct.
C) tympanic duct.
D) auditory tube.
E) external auditory canal.
Answer: D
Diff: 1
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms

70) The sense of hearing is provided by receptors of the
A) outer ear.
B) middle ear.
C) inner ear.
D) pinna.
E) semicircular canals.
Answer: C
Diff: 1
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms

71) A movement in the vertical plane, such as falling straight down while the body maintains the anatomical position, would be sensed by the
A) utricles.
B) saccules.
C) organ of Corti.
D) supporting cells.
E) cochlea.
Answer: B
Diff: 1
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms
72) The structure that overlies the organ of Corti is the
A) basilar membrane.
B) tectorial membrane.
C) endolymph.
D) malleus.
E) vestibular duct.
Answer: B  
Diff: 1  
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms

73) The structure that separates the cochlear duct from the tympanic duct is the
A) tectorial membrane.
B) basilar membrane.
C) vestibular duct.
D) organ of Corti.
E) malleus.
Answer: B  
Diff: 1  
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms

74) The amplitude of vibrations is measured in
A) decibels.
B) wavelength.
C) frequency.
D) intensity.
E) duration.
Answer: A  
Diff: 1  
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms

75) The frequency of a sound is indicated to the nervous system by the
A) frequency of hair cell vibration.
B) number of rows of hair cells that are stimulated.
C) region of the organ of Corti that is stimulated.
D) movement of the perilymph in the cochlear duct.
E) frequency of vibration of the tectorial membrane.
Answer: C  
Diff: 1  
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms
76) A viral infection involving the vestibular nuclei may result in
A) loss of hearing.
B) loss of sight.
C) a sense of dizziness.
D) local paralysis.
E) high blood pressure.
Answer: C
Diff: 1
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms

77) Which of the following is filled with air?
A) middle ear cavity
B) cochlea
C) vestibule
D) semicircular canal
E) membranous labyrinth
Answer: A
Diff: 1
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms

78) ________ deafness results from conditions in the middle ear that block the normal transfer of vibrations from the tympanum to the oval window.
A) Nerve
B) Corti
C) Conduction
D) Tunnel
E) Cochlear
Answer: C
Diff: 1
Learning Outcome: 9.7
Skill Level: 3 Critical Thinking & Clinical Applications

Matching Questions

1) Match the chamber in the first column with its structure in the second column.
   _____ 1. external ear  A. cochlea, vestibule, semicircular canals
   _____ 2. middle ear  B. auricle, auditory meatus
   _____ 3. internal ear  C. auditory ossicles

Answer: 1-C, 2-A, 3-B
Diff: 2
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms
2) Match the muscle in the first column with its action in the second column.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>1. inferior rectus</td>
<td>A. eye looks down</td>
</tr>
<tr>
<td>2. inferior oblique</td>
<td>B. eye rotates medially</td>
</tr>
<tr>
<td>3. lateral rectus</td>
<td>C. eye rolls, looks up and to the side</td>
</tr>
<tr>
<td>4. medial rectus</td>
<td>D. eye rolls, looks down and to the side</td>
</tr>
<tr>
<td>5. superior oblique</td>
<td>E. eye rotates laterally</td>
</tr>
</tbody>
</table>

Answer: 1-A, 2-C, 3-E, 4-B, 5-D

Diff: 2

Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms

Fill in the Blank Questions

1) Changes in body position may be sensed by the ear, or by a group of receptors called _______________________.

Answer: proprioceptors

Diff: 1
Learning Outcome: 9.2
Skill Level: 1 Reviewing Facts and Terms

2) _________________________ sense changes in the amount of heat energy.

Answer: Thermoreceptors

Diff: 1
Learning Outcome: 9.2
Skill Level: 1 Reviewing Facts and Terms

3) The _________________________ contains supporting cells and olfactory receptors.

Answer: olfactory epithelium

Diff: 1
Learning Outcome: 9.3
Skill Level: 1 Reviewing Facts and Terms

4) A substance that tastes sour most likely contains _______________________.

Answer: hydrogen ions

Diff: 1
Learning Outcome: 9.4
Skill Level: 1 Reviewing Facts and Terms

5) Each gustatory cell extends a(n) _________________________ into the surrounding fluids through a narrow taste pore.

Answer: taste hair

Diff: 1
Learning Outcome: 9.4
Skill Level: 1 Reviewing Facts and Terms
6) A(n) _________________________ is an abnormal lens that has lost its clarity.
Answer: cataract
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

7) The transparent anterior portion of the eye is called the _________________________.
Answer: cornea
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

8) The lens attempts to focus light on the _________________________.
Answer: fovea centralis
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

9) A person suffering from ________________________ can see distant objects more clearly than those that are close.
Answer: hyperopia
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

10) ________________________ cells connect photoreceptors to ganglion cells.
Answer: Bipolar
Diff: 1
Learning Outcome: 9.6
Skill Level: 1 Reviewing Facts and Terms

11) The visual receptors of the retina are called ______________________ and ______________________.
Answer: rods; cones
Diff: 1
Learning Outcome: 9.6
Skill Level: 1 Reviewing Facts and Terms

12) Swellings in the semicircular canals are called _________________________.
Answer: ampullae
Diff: 1
Learning Outcome: 9.7
Skill Level: 1 Reviewing Facts and Terms
Essay Questions

1) Tom has surgery to remove some polyps (growths) from his sinuses. After he heals from the surgery, he notices that his sense of smell is not as keen as it was before the surgery. Can you suggest a reason for this?

Answer: In removing the polyps, some of the olfactory epithelium was probably damaged or destroyed. This would decrease the area available for the solution containing odor molecules, and thus the intensity of the stimulus would be diminished. As a result, it would take a larger stimulus to provide the same level of smell after the surgery.

Diff: 1
Learning Outcome: 9.3
Skill Level: 3 Critical Thinking & Clinical Applications

Labeling Exercises

Using the figure above, identify the labeled part.

1) Label A: ________
Answer: Visual axis
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms
2) Label B: ________  
Answer: Cornea  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms

3) Label C: ________  
Answer: Iris  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms

4) Label D: ________  
Answer: Suspensory ligament of lens  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms

5) Label E: ________  
Answer: Conjunctiva  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms

6) Label F: ________  
Answer: Lower eyelid  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms

7) Label G: ________  
Answer: Sclera  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms

8) Label H: ________  
Answer: Choroid  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms

9) Label I: ________  
Answer: Retina  
Diff: 1  
Learning Outcome: 9.5  
Skill Level: 1 Reviewing Facts and Terms
10) Label J: ________
Answer: Posterior cavity
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

11) Label K: ________
Answer: Lateral rectus muscle
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

12) Label L: ________
Answer: Fovea
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

13) Label M: ________
Answer: Central artery and vein
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

14) Label N: ________
Answer: Optic nerve
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

15) Label O: ________
Answer: Optic disc
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

16) Label P: ________
Answer: Medial rectus muscle
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

17) Label Q: ________
Answer: Ciliary body
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms
18) Label R: ________
Answer: Ciliary muscle
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

19) Label S: ________
Answer: Lacrimal sac
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

20) Label T: ________
Answer: Lacrimal pore
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

21) Label U: ________
Answer: Posterior chamber
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

22) Label V: ________
Answer: Anterior chamber
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

23) Label W: ________
Answer: Anterior cavity
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

24) Label X: ________
Answer: Edge of pupil
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms

25) Label Y: ________
Answer: Lens
Diff: 1
Learning Outcome: 9.5
Skill Level: 1 Reviewing Facts and Terms