1) The process through which the senses detect sensory stimuli and transmit them to the brain is called

a. perception.

b. reception.

c. consciousness.

d. sensation.

Correct: *The process of sensing and transmitting sensory information to the brain is called sensation.*

Answer: d
Diff: 1

Type: MC
Page Reference: 62

Topic: Factual

Objective: 3.1 Identify and understand the difference between sensation and perception.

2) "The information brought to us by our various senses" is a description of

a. sensation.

Correct: *The process of sensing and transmitting sensory information to the brain is called sensation.*

b. reception.

c. perception.

d. transduction.

Answer: a
Diff: 1

Type: MC
Page Reference: 62

Topic: Factual

Objective: 3.1 Identify and understand the difference between sensation and perception.

3) Sensory information is organized and interpreted by the brain through the process of

a. transduction.

b. consciousness.

c. perception.

Correct: *Perception is the process of organizing and interpreting sensory information in the brain.*

d. sensation.

Answer: c
Diff: 1

Type: MC
Page Reference: 62

Topic: Conceptual

Objective: 3.1 Identify and understand the difference between sensation and perception.

4) The process through which we interpret and organize information brought to us by our various senses is called

a. sensation.

b. somnambulism.

c. convergence.

d. perception.

Correct: *Perception is the process of organizing and interpreting sensory information in the brain.*

Answer: d
Diff: 1

Type: MC
Page Reference: 62

Topic: Factual

Objective: 3.1 Identify and understand the difference between sensation and perception.

5) _____ furnishes the raw material of sensory experience; _____ provides the finished product.

a. Perception; sensation

b. Perception; transduction

c. Sensation; perception

Correct: *The process of sensing and transmitting sensory information to the brain is called sensation, while perception is the process of organizing and interpreting sensory information in the brain.*

d. Sensation; transduction

Answer: c
Diff: 2

Type: MC
Page Reference: 62

Topic: Conceptual

Objective: 3.1 Identify and understand the difference between sensation and perception.

6) Tina was walking through the woods, and she saw something moving. When she came closer to it, she realized the moving animal was a deer. Being able to identify the animal was a product of

a. convergence.

b. perception.

Correct: *Perception is the process of organizing and interpreting sensory information, such as labelling a visual stimulus.*

c. reception.

d. aphasia.

Answer: b
Diff: 2

Type: MC
Page Reference: 62

Topic: Applied

Objective: 3.1 Identify and understand the difference between sensation and perception.

7) S.B.'s failure to adapt to vision after fifty years of blindness points out the difference between sensation and

a. dreaming.

b. illusion.

c. perception.

Correct: *S.B. would have still been able to experience the sensation of seeing, but was unable to rely on the processing of the information in the brain to be able to take advantage of the visual information.*

d. transduction.

Answer: c
Diff: 2

Type: MC

Page Reference: 70

Topic: Applied

Objective: 3.1 Identify and understand the difference between sensation and perception.

8) Which of the following is listed in your textbook as a "secondary sense?"

a. Smell

b. Vision

c. Balance

Correct: *Balance and pain are considered two secondary senses.*

d. Touch

Answer: c
Diff: 2

Type: MC
Page Reference: 62

Topic: Factual

Objective: 3.1 Identify and understand the difference between sensation and perception.

9) Detecting a candle 48 kilometres away on a clear, dark night, and tasting a teaspoon of sugar dissolved in 9 litres of water are examples of

a. absolute thresholds.

Correct: *The absolute threshold for any given sense is the minimum measure of stimulus that can be detected 50 percent of the time.*

b. difference thresholds.

c. perceptual constancies.

d. transduction.

Answer: a
Diff: 2

Type: MC
Page Reference: 62

Topic: Factual

Objective: 3.2 Define and explain each of the following measures of the senses: absolute threshold, difference threshold, and signal detection theory.

10) According to its definition, the absolute threshold is the minimum amount of sensory stimulation that a person can

a. detect at least once in ten trials.

b. never detect.

c. detect 50 percent of the time.

Correct: *The absolute threshold for any given sense is the minimum measure of stimulus that can be detected 50 percent of the time.*

d. always detect.

Answer: c
Diff: 2

Type: MC
Page Reference: 62

Topic: Factual

Objective: 3.2 Define and explain each of the following measures of the senses: absolute threshold, difference threshold, and signal detection theory.

11) The minimum amount of physical stimulation necessary for us to experience a sensation 50 percent of the time is called the

a. blind spot.

b. difference threshold.

c. figure to ground ratio.

d. absolute threshold.

Correct: *The absolute threshold for any given sense is the minimum measure of stimulus that can be detected 50 percent of the time.*

Answer: d
Diff: 2

Type: MC
Page Reference: 62

Topic: Factual

Objective: 3.2 Define and explain each of the following measures of the senses: absolute threshold, difference threshold, and signal detection theory.

12) Psychologists define the absolute threshold as the minimum amount of sensory stimulation which can be detected

a. 25 percent of the time.

b. 50 percent of the time.

Correct: *The absolute threshold for any given sense is the minimum measure of stimulus that can be detected 50 percent of the time.*

c. 75 percent of the time.

d. 100 percent of the time

Answer: b
Diff: 2

Type: MC
Page Reference: 62

Topic: Factual

Objective: 3.2 Define and explain each of the following measures of the senses: absolute threshold, difference threshold, and signal detection theory.

13) In psychophysics, JND stands for

a. Jung's noticeable difference.

b. just neural distance.

c. Jung's neural distance.

d. just noticeable difference.

Correct: *The smallest increase or decrease in sensory stimulation that is noticeable 50 percent of the time is called the just noticeable difference, or JND.*

Answer: d
Diff: 2

Type: MC
Page Reference: 62

Topic: Factual

Objective: 3.2 Define and explain each of the following measures of the senses: absolute threshold, difference threshold, and signal detection theory.

14) Which of the following statements correctly describes our ability to detect differences in stimulus intensity?

a. The amount of change needed to detect differences in stimulation is identical for each sense.

b. Larger changes in strong stimuli are needed to detect changes than are needed for weak stimuli.

Correct: *The ability to detect differences in sensory stimulation is based on percentages. As a result, for stronger stimuli, a larger absolute change is required in order to meet the percentage of change that would be detectable.*

c. The same amount of change is needed to detect changes in weak stimuli and in strong stimuli.

d. Larger changes in weak stimuli are needed to detect changes than are needed for strong stimuli.

Answer: b
Diff: 3

Type: MC
Page Reference: 62

Topic: Conceptual

Objective: 3.2 Define and explain each of the following measures of the senses: absolute threshold, difference threshold, and signal detection theory.

15) Weber's law best fits people with

a. specialized training.

b. both good abilities and specialized training.

c. average sensitivities.

Correct: *Some people have heightened sensitivities to particular stimuli. Weber based his findings on the responses of individuals with average sensitivities to a variety of stimuli.*

d. exceptionally good abilities.

Answer: c
Diff: 2

Type: MC
Page Reference: 62

Topic: Conceptual

Objective: 3.2 Define and explain each of the following measures of the senses: absolute threshold, difference threshold, and signal detection theory.

16) Weber's law best fits sensory stimuli that are

a. fairly weak.

b. neither very strong nor very weak.

Correct: *Weber based his data on senses that were of "average" strength rather than very strong or very weak.*

c. fairly weak through very strong.

d. very strong.

Answer: b
Diff: 2

Type: MC
Page Reference: 62

Topic: Conceptual

Objective: 3.2 Define and explain each of the following measures of the senses: absolute threshold, difference threshold, and signal detection theory.

17) The discrimination of a stimulus from background noise and the decision that the stimulus is present combine in the view known as

a. top-down processing.

b. just noticeable difference.

c. Weber's Law.

d. signal detection theory.

Correct: *Both the sensation of a stimulus from background stimuli, and the decision that the signal does, in fact, exist are required for a signal to be detected. This combination of elements comprise signal detection theory.*

Answer: d
Diff: 2

Type: MC
Page Reference: 63

Topic: Conceptual

Objective: 3.2 Define and explain each of the following measures of the senses: absolute threshold, difference threshold, and signal detection theory.

18) Signal detection theory suggests that deciding whether a stimulus is present depends partly on the _____ and partly on the potential gain or loss associated with deciding that it is present or absent.

a. the strength of the stimulus

b. the focus of your attention

c. probability that the stimulus will occur

Correct: *Your brain seems to make a calculation based on past experiences as the probability that a given stimulus is likely in this particular situation.*

d. level of your anxiety

Answer: c
Diff: 3

Type: MC
Page Reference: 63

Topic: Applied

Objective: 3.2 Define and explain each of the following measures of the senses: absolute threshold, difference threshold, and signal detection theory.

19) The process by which sensory receptors convert sensory stimulation—light, sound, odours, etc.—into neural impulses is

a. transduction.

Correct: *This is the definition of "transduction."*

b. stimulus generalization.

c. perception.

d. signal detection.

Answer: a
Diff: 3

Type: MC
Page Reference: 63

Topic: Applied

Objective: 3.2 Define and explain each of the following measures of the senses: absolute threshold, difference threshold, and signal detection theory.

20) The process by which sensory receptors convert sensory stimulation into neural impulses is called

a. refraction.

b. convergence.

c. sublimation.

d. transduction.

Correct: *Sensory receptors change sensory information into neural impulses through a process known as transduction.*

Answer: d
Diff: 2

Type: MC
Page Reference: 63

Topic: Factual

Objective: 3.3 Understand how sensory stimuli come to be experienced as sensations.

21) *Transduction* refers to

a. the conversion of sensory stimulation into neural impulses by the sensory receptors.

Correct: *Sensory receptors change sensory information into neural impulses through a process known as transduction.*

b. illusions that result from overgeneralizing from experiences.

c. the process of subliminal perception.

d. hallucinations that occur due to sensory deprivation situations.

Answer: a
Diff: 2

Type: MC
Page Reference: 63

Topic: Factual

Objective: 3.3 Understand how sensory stimuli come to be experienced as sensations.

22) Sensory stimulation from the external world is converted into neural impulses by the

a. brain.

b. sensory receptors.

Correct: *Sensory receptors change sensory information into neural impulses through a process known as transduction.*

c. thalamus.

d. sensory glia.

Answer: b
Diff: 3

Type: MC
Page Reference: 63

Topic: Factual

Objective: 3.3 Understand how sensory stimuli come to be experienced as sensations.

23) Which of the following is **not** true of sensory receptors?

a. They provide the sensory link between the physical sensory world and the brain.

b. They are specialized to detect and respond to one type of sensory stimuli.

c. They transduce sensory stimuli into neural impulses.

d. They are located in the brain.

Correct: *Sensory receptors are located in the sense organs. For example, sensory receptors for sight are located in the eyes; for sound, in the ears, and so on.*

Answer: d
Diff: 3

Type: MC
Page Reference: 63

Topic: Conceptual

Objective: 3.3 Understand how sensory stimuli come to be experienced as sensations.

24) We experience a sensation when

a. a stimulus is sent towards us.

b. the sensory receptor is stimulated.

c. we understand what it is.

d. the appropriate part of the brain is stimulated.

Correct: *Sensory receptors change sensory information into neural impulses through a process known as transduction. It is only after transduction occurs and the appropriate spot in the brain is stimulated that we actually experience a sensation.*

Answer: d
Diff: 2

Type: MC
Page Reference: 63

Topic: Conceptual

Objective: 3.3 Understand how sensory stimuli come to be experienced as sensations.

25) The process of becoming less sensitive to a stimulus that remains constant over time is known as

a. sensory detection.

b. signal detection.

c. sensory adaptation.

Correct: *With repeated, ongoing exposure to a particular stimulus, we become less sensitive to it, or perhaps stop noticing it altogether.*

d. signal adaptation.

Answer: c
Diff: 2

Type: MC
Page Reference: 63

Topic: Conceptual

Objective: 3.3 Understand how sensory stimuli come to be experienced as sensations.

26) After working for several hours at a computer terminal and using the word processor to prepare a term paper, the fact that you no longer hear the hum of the computer's electrical system is a result of

a. signal detection.

b. minimum absolute thresholds.

c. difference thresholds.

d. sensory adaptation.

Correct: *Repeated, ongoing exposure to a particular stimulus results in less sensitivity to it; in fact, it may no longer be noticed at all. This is known as sensory adaptation.*

Answer: d
Diff: 2

Type: MC
Page Reference: 63

Topic: Applied

Objective: 3.3 Understand how sensory stimuli come to be experienced as sensations.

27) Each morning when Jackie goes to work at the dry cleaners, she smells the strong odour of cleaning fluid. After she is there for a few minutes, she is no longer aware of it. What accounts for this?

a. sensory adaptation.

Correct: *Repeated, ongoing exposure to a particular stimulus, results in less sensitivity to it; in fact, it may no longer be noticed at all. This is known as sensory adaptation.*

b. the just noticeable difference.

c. signal detection theory.

d. transduction.

Answer: a
Diff: 2

Type: MC
Page Reference: 63

Topic: Conceptual

Objective: 3.3 Understand how sensory stimuli come to be experienced as sensations.

28) Visible light is _____ the total electromagnetic spectrum.

a. greater than

b. a small part of

Correct: *The human eye can only detect a very narrow band of electromagnetic waves, which is known as the visible spectrum.*

c. equal to

d. a large part of

Answer: b
Diff: 2

Type: MC
Page Reference: 65

Topic: Factual

Objective: 3.4 Identify and describe the major structures of the eye.

29) The _____ performs the first step in vision by bending the light rays inward

a. lens cover

b. iris

c. cornea

Correct: *The cornea is the tough, transparent, protective layer covering the front of the eye*

d. retina

Answer: c
Diff: 3

Type: MC
Page Reference: 65

Topic: Factual

Objective: 3.4 Identify and describe the major structures of the eye.

30) In the eye the information contained in light makes contact with the _____ first; and with the _____ last

a. fovea…lens

b. lens…fovea

c. optic nerve...cornea

d. cornea…optic nerve

Correct: *The cornea is at the front of the eye and the optic nerve at the back.*

Answer: d
Diff: 3

Type: MC
Page Reference: 66

Topic: Factual

Objective: 3.4 Identify and describe the major structures of the eye.

31) Which sensory organ provides the most information to the brain?

a. Ear

b. Nose

c. Tongue

d. Eye

Correct: *Most of the information that the brain processes comes to us through our sense of vision.*

Answer: d
Diff: 3

Type: MC
Page Reference: 66

Topic: Factual

Objective: 3.4 Identify and describe the major structures of the eye.

32) Which of the following is the correct order for light as it moves toward the retina?

a. lens, cornea, pupil

b. pupil, lens, cornea

c. cornea, pupil, lens

Correct: *The outermost layer on the eye is called the cornea. Through it, light travels through the pupil to the lens, which focuses the image we perceive.*

d. pupil, cornea, lens

Answer: c
Diff: 2

Type: MC
Page Reference: 65-66

Topic: Conceptual

Objective: 3.4 Identify and describe the major structures of the eye.

33) The tough, transparent, protective layer covering the front of the eye is called the

a. iris.

b. pupil.

c. lens.

d. cornea.

Correct: *The cornea is the outermost, protective layer of the eye.*

Answer: d
Diff: 2

Type: MC
Page Reference: 65-66

Topic: Factual

Objective: 3.4 Identify and describe the major structures of the eye.

34) As light enters the outer surface of the eye, what structure bends the rays of light so that they travel through the pupils?

a. Cornea

Correct: *The cornea is the outermost, protective layer of the eye. Its function is also to bend the light rays so that they enter the pupil.*

b. Lens

c. Iris

d. Retina

Answer: a
Diff: 2

Type: MC
Page Reference: 65-66

Topic: Factual

Objective: 3.4 Identify and describe the major structures of the eye.

35) The amount of light that enters into the eye is controlled by the

a. lens.

b. retina.

c. cornea.

d. iris.

Correct: *The iris is the coloured part of the eye that is also responsible for contracting or expanding to allow the right amount of light to enter the eye.*

Answer: d
Diff: 1

Type: MC
Page Reference: 65

Topic: Factual

Objective: 3.4 Identify and describe the major structures of the eye.

36) The two muscles in the _____ dilate and contract the _____, thus regulating the amount of light entering the eye.

a. fovea; retina

b. iris; pupil

Correct: *The iris is the coloured part of the eye that is also responsible for contracting or expanding to allow the right amount of light to enter the eye. The opening through which light enters is called the pupil.*

c. pupil; lens

d. cornea; lens

Answer: b
Diff: 2

Type: MC
Page Reference: 65

Topic: Conceptual

Objective: 3.4 Identify and describe the major structures of the eye.

37) Which of the following is **not** true with regard to the functioning of the pupils in the eye?

a. Two muscles in the iris control pupil size.

b. Pupils help regulate the amount of light admitted to the eye.

c. Pupils can contract to the size of the head of a pin.

d. We can voluntary control pupil contraction.

Correct: *We have not conscious control of the pupils.*

Answer: d
Diff: 2

Type: MC
Page Reference: 65

Topic: Conceptual

Objective: 3.4 Identify and describe the major structures of the eye.

38) The flattening and bulging action of the lens is known as

a. accommodation

Correct: *This is the definition of accommodation.*

b. adjustment

c. dilation

d. assimilation

Answer: a
Diff: 2

Type: MC
Page Reference: 65

Topic: Factual

Objective: 3.4 Identify and describe the major structures of the eye.

39) As we grow older, our lens loses some elasticity—that is, it loses the ability to change its shape to accommodate for near vision, a condition called

a. accommodation failure.

b. myopia.

c. presbyopia.

Correct: *This means "old eye."*

d. anhedonia.

Answer: c
Diff: 2

Type: MC
Page Reference: 65

Topic: Factual

Objective: 3.4 Identify and describe the major structures of the eye.

40) If your pupil is quite constricted, you are probably looking at an object

a. in dim lighting.

b. in bright lighting.

Correct: *When we look into bright light, our pupils would contract to protect the eye from too much light entering it.*

c. that is very close.

d. that is far away.

Answer: b
Diff: 2

Type: MC
Page Reference: 65

Topic: Conceptual

Objective: 3.4 Identify and describe the major structures of the eye.

41) If your pupil is quite large, you are probably looking at an object:

a. that is very close.

b. that is very far away.

c. in bright lighting.

d. in dim lighting.

Correct: *When we look at objects in dim light, our pupils dilate to allow for the available light to enter the eye and assist with perceiving the object as accurately as possible.*

Answer: d
Diff: 2

Type: MC
Page Reference: 65

Topic: Conceptual

Objective: 3.4 Identify and describe the major structures of the eye.

42) What is the transparent structure behind the iris that changes shape as it focuses images on the retina?

a. Blind spot

b. Cornea

c. Lens

Correct: *The lens of the eye functions like a camera lens—that is, it properly focuses the image entering the eye on the retina.*

d. Pupil

Answer: c
Diff: 2

Type: MC
Page Reference: 65

Topic: Factual

Objective: 3.4 Identify and describe the major structures of the eye.

43) If your lens is bulging in the centre, you are probably looking at an object

a. that is very far away.

b. in bright lighting.

c. in dim lighting.

d. that is very close.

Correct: *The lens flattens as it focuses images from a distance, and it bulges as it focuses on those that are up close.*

Answer: d
Diff: 3

Type: MC
Page Reference: 65

Topic: Conceptual

Objective: 3.4 Identify and describe the major structures of the eye.

44) If your lens is flattened, you are probably looking at an object

a. in dim lighting.

b. that is far away.

Correct: *The lens flattens as it focuses images from a distance, and it bulges as it focuses on those up close.*

c. in bright lighting.

d. that is very close.

Answer: b
Diff: 3

Type: MC
Page Reference: 65

Topic: Conceptual

Objective: 3.4 Identify and describe the major structures of the eye.

45) The flattening and bulging action of the lens is known as

a. transduction.

b. accommodation.

Correct: *The lens flattens as it focuses images from a distance, and it bulges as it focuses those up close. This process is called accommodation.*

c. assimilation.

d. opponent-processing.

Answer: b
Diff: 2

Type: MC
Page Reference: 65

Topic: Factual

Objective: 3.4 Identify and describe the major structures of the eye.

46) The need for reading glasses or bifocals in middle age is due to the

a. reduced ability of the iris to dilate.

b. reduced ability of the lens to accommodate for far vision.

c. reduced ability of the lens to accommodate for near vision.

Correct: *The lens bulges as it focuses those up close. As we age, the elasticity of the lens decreases, so that it is less able to change its shape to focus on objects, typically those in closer proximity.*

d. reduced ability of the iris to contract.

Answer: c
Diff: 3

Type: MC
Page Reference: 65

Topic: Conceptual

Objective: 3.4 Identify and describe the major structures of the eye.

47) The name of the condition that occurs in middle age and involves lessened ability of the lens to accommodate is called

a. presbyopia.

Correct: *The lens bulges as it focuses those up close. As we age, the elasticity of the lens decreases, so that it is less able to change its shape to focus on objects, typically those in closer proximity. This condition is called presbyopia.*

b. astigmatism.

c. myopia.

d. hyperopia.

Answer: a
Diff: 3

Type: MC
Page Reference: 65

Topic: Conceptual

Objective: 3.4 Identify and describe the major structures of the eye.

48) The condition that occurs when the lens focuses images of distant objects in front of, rather than on, the retina is called

a. shortsightedness.

b. nearsightedness.

Correct: *Nearsightedness, also known as myopia, results when the lens is unable to focus the image of objects at a distance on the retina, but instead focuses them in front of the retina.*

c. farsightedness.

d. presbyopia.

Answer: b
Diff: 2

Type: MC
Page Reference: 66

Topic: Conceptual

Objective: 3.4 Identify and describe the major structures of the eye.

49) The condition that occurs when the lens focuses images of distant objects behind, rather than on, the retina is called

a. shortsightedness.

b. farsightedness.

Correct: *Farsightedness, also known as hyperopia, results when the lens is unable to focus the image of objects that are in close proximity on the retina, but instead focuses them behind the retina.*

c. nearsightedness.

d. presbyopia.

Answer: b
Diff: 2

Type: MC
Page Reference: 66

Topic: Conceptual

Objective: 3.4 Identify and describe the major structures of the eye.

50) Changes in a chemical called _____ found in the rods, enable us to adapt to the darkness of a movie theatre or to the brightness of a beach on a sunny day.

a. serotonin.

b. rhodospin.

Correct: *Rhodopsin is a chemical that is sensitive to light.*

c. vitrial.

d. GABA.

Answer: b
Diff: 2

Type: MC
Page Reference: 66

Topic: Factual

Objective: 3.4 Identify and describe the major structures of the eye.

51) The retina is about the size of a

a. small postage stamp.

Correct: *The tissue at the back of the eye on which images are focused is about the size of a postage stamp, and is called the retina.*

b. this typed O.

c. mustard jar lid.

d. quarter.

Answer: a
Diff: 2

Type: MC
Page Reference: 66

Topic: Factual

Objective: 3.4 Identify and describe the major structures of the eye.

52) The image on the retina is

a. strongest at the point where the optic nerve exits the eye.

b. upside down and reversed left to right.

Correct: *The image we perceive, as it is projected from the lens onto the retina, is inverted and reversed left to right.*

c. clear even for people who are nearsighted or farsighted.

d. weakest at the fovea.

Answer: b
Diff: 2

Type: MC
Page Reference: 66

Topic: Factual

Objective: 3.4 Identify and describe the major structures of the eye.

53) Which of the following is **not** true of the image on the retina?

a. It is reversed left to right.

b. It is strongest where the optic nerve exits the eye.

Correct: *The image on the retina is weakest at the point where the optic nerve attaches to the eye, as there can be no rods or cones in that specific location.*

c. It is strongest at the fovea.

d. It is upside down.

Answer: b
Diff: 1

Type: MC
Page Reference: 66

Topic: Conceptual

Objective: 3.4 Identify and describe the major structures of the eye.

54) The reason that the blind spot is not perceived as a black hole in our visual field is

a. the optic nerve connects at the blind spot, and it is where we have the highest concentration of cones and rods.

b. the blind spot doesn't really exist.

c. because we usually have both eyes open, and each eye provides a slightly different view.

Correct: *The input from one eye allows for compensation of the blind spot in the other.*

d. the optic nerve connects at the blind spot and it contains cones to allow us to see colour.

Answer: c
Diff: 2

Type: MC
Page Reference: 67

Topic: Conceptual

Objective: 3.4 Identify and describe the major structures of the eye.

55) Which of the following is true?

a. You have more rods in the fovea and more cones in the rest of the retina.

b. You have many more rods than cones.

Correct: *The human eye contains approximately 120 million rods and about 6 million cones.*

c. You have many more cones than rods.

d. You have about equal numbers of cones than rods.

Answer: b
Diff: 2

Type: MC
Page Reference: 66

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

56) Which of the following is **not** true of cones?

a. They play a key role in colour vision.

b. They are more numerous than rods.

Correct: *The human eye contains approximately 120 million rods and about 6 million cones.*

c. They are critical in our ability to notice fine detail.

d. They function best in bright light.

Answer: b
Diff: 2

Type: MC
Page Reference: 66

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

57) Which of the following is true of the cones?

a. They allow us to see colour.

Correct: *The main function of the cones is to assist us in detecting colour and fine detail.*

b. They are not very good in detecting fine details.

c. They function best in dim light.

d. They adapt more readily than rods to the dark.

Answer: a
Diff: 2

Type: MC
Page Reference: 66

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

58) Which of the following statements is **not** true?

a. Rods allow us to see in very dim light.

b. Cones are the receptors that allow us to see colour.

c. Rods respond to only black and white.

Correct: *Rods respond to black and white and while they encode all other visible wavelengths, they do so in shades of grey instead of in colour.*

d. Cones are the receptors that allow us to see fine detail.

Answer: c
Diff: 1

Type: MC
Page Reference: 66

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

59) The clearest point of your vision in the daytime is

a. at the fovea.

Correct: *The fovea contains the highest concentration of cones, which are useful for perceiving detail, but which do not function well in low light.*

b. not located on any particular spot of the retina.

c. at the point where the optic nerve connects with the eye.

d. at the periphery of the retina.

Answer: a
Diff: 2

Type: MC
Page Reference: 66

Topic: Conceptual

Objective: 3.5 Compare the function of rods and cones.

60) The fovea is

a. the periphery of the retina that contains only rods.

b. the area of the retina that contains both rods and cones.

c. the spot where the optic nerve connects to the eye.

d. an area of the retina that contains only cones.

Correct: *The fovea contains the highest concentration of cones.*

Answer: d

Diff: 2

Type: MC
Page Reference: 66

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

61) The fovea is located

a. behind the retina.

b. in front of the retina.

c. at the periphery of the retina.

d. in the centre of the retina.

Correct: *The fovea is situated approximately in the centre of the retina.*

Answer: d
Diff: 2

Type: MC
Page Reference: 66

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

62) The ophthalmologist is examining a part of your eye in which you have mostly rods. She is looking at which portion of the retina?

a. The periphery

Correct: *The fovea contains the highest concentration of cones, and virtually no rods. Just beyond the periphery of the retina are the rods and fewer cones.*

b. The blind spot

c. The fovea

d. The centre

Answer: a
Diff: 2

Type: MC
Page Reference: 66

Topic: Conceptual

Objective: 3.5 Compare the function of rods and cones.

63) You can find the highest concentration of rods in the

a. centre of the retina.

b. blind spot.

c. periphery of the retina.

Correct: *The fovea contains the highest concentration of cones, and virtually no rods. Just beyond the periphery of the retina are the rods and fewer cones.*

d. fovea.

Answer: c
Diff: 2

Type: MC
Page Reference: 66

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

64) The cones perform better than the rods in each of the following conditions except

a. helping you pick out puzzle pieces with similar detail when you are working on a jigsaw puzzle.

b. helping you see well on a bright, sunny day.

c. helping you find a seat in a darkened movie theatre.

Correct: *Cones are useful for perceiving detail, but do not function well in low light, as in a darkened movie theatre.*

d. helping you detect subtle colour differences in fabric samples.

Answer: c
Diff: 2

Type: MC
Page Reference: 66

Topic: Conceptual

Objective: 3.5 Compare the function of rods and cones.

65) Bright light is to _____ as dim light is to _____.

a. bipolar cell; ganglion cell

b. ganglion cell; bipolar cell

c. rod; cone

d. cone; rod

Correct: *Cones function best in bright light, while rods function better than cones in dim light.*

Answer: d
Diff: 3

Type: MC
Page Reference: 66

Topic: Conceptual

Objective: 3.5 Compare the function of rods and cones.

66) The point at which the optic nerve exits the eye is called the

a. sclera.

b. retina.

c. fovea.

d. blind spot.

Correct: *Since there are no cones or rods at the point at which the optic nerve exits the eye, there is no vision in this precise location.*

Answer: d
Diff: 1

Type: MC
Page Reference: 67

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

67) Where the optic nerve exits the eye, there are

a. equal numbers of rods and cones.

b. more cones than rods.

c. neither rods nor cones.

Correct: *Since there are no cones or rods at the point at which the optic nerve exits the eye, there is no vision in this precise location.*

d. more rods than cones.

Answer: c
Diff: 1

Type: MC
Page Reference: 67

Topic: Conceptual

Objective: 3.5 Compare the function of rods and cones.

68) Visual information is carried to the brain by the

a. optic nerve.

Correct: *Approximately one million ganglion cells are bundled together in a cable that extends from the retina to the brain. From the point at which this cable leaves the retina, it is known as the optic nerve.*

b. auditory nerve.

c. papillae.

d. hair cells.

Answer: a
Diff: 1

Type: MC
Page Reference: 67

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

69) Which of these statements accurately describes the visual pathway?

a. Information from the right half of each eye goes to the right hemisphere and from the left half to the left hemisphere.

Correct: *There is crossover of visual information: the right halves of both retinas produce information that is sent to the right hemisphere and the left halves of both retinas send information to the left hemisphere.*

b. Information from the right eye goes to the right hemisphere and from the left eye to the left hemisphere.

c. Information from the right eye goes to the left hemisphere and from the left eye to the right hemisphere.

d. Information from the right half of each eye goes to the left hemisphere and from the left half to the right hemisphere.

Answer: a
Diff: 3

Type: MC
Page Reference: 67

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

70) Neural impulses are carried from the retina to the thalamus by the _____ and then relayed to their final destination, the _____.

a. rods and cones; optic nerve

b. optic nerve; optic chiasma

c. optic nerve; primary visual cortex

Correct: *After information leaves the retina, it is passed through the optic nerve to the brain, where it is processed in the primary visual cortex.*

d. optic chiasma; primary visual cortex

Answer: c
Diff: 2

Type: MC
Page Reference: 67

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

71) Before light can reach visual receptors in the retina, rods and cones, it must actually pass through all of the following ***except***

a. ganglion cells,

b. amacrine cells

c. vertical cells

Correct: *Horizontal cells*

d. bipolar cells

Answer: c
Diff: 2

Type: MC
Page Reference: 67

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

72) About _____ of the primary visual cortex is dedicated exclusively to analyzing input from the fovea, which is a very small but extremely important part of the retina.

a. 10%

b. 25%

Correct: *This is correct*

c. 50%

d. 100%

Answer: b
Diff: 2

Type: MC
Page Reference: 67

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

73) Which of the following statements is ***not*** true of the work of Hubel and Weisel?

a. They were able to insert electrodes into single cells in the visual cortex's of cats

b. They demonstrated that adjacent neurons can alter the type of information to which its neighbours are sensitive.

Correct: *This was not part of their research project.*

c. They discovered that each neuron responds to only one specific type of visual pattern.

d. They discovered feature detectors.

Answer: b
Diff: 3

Type: MC
Page Reference: 67

Topic: Conceptual

Objective: 3.5 Compare the function of rods and cones.

74) Which of the following physical properties of light contribute to your experiences of hue or colour?

a. Wavelength

Correct: *Hue is determined by a particular colour's wavelength.*

b. Wave complexity

c. Amplitude

d. Intensity

Answer: a

Diff: 2

Type: MC
Page Reference: 69

Topic: Factual

Objective: 3.6 Define and compare the two theories of colour vision.

75) Hue refers to the

a. actual colour we view.

Correct: *Another word for the colour that we actually perceive is "hue."*

b. purity of the colour we view.

c. brightness of the colour we view.

d. saturation of the colour we view.

Answer: a
Diff: 1

Type: MC
Page Reference: 69

Topic: Factual

Objective: 3.6 Define and compare the two theories of colour vision.

76) Brightness refers to the

a. purity of the colour we view.

b. intensity of the colour we view.

Correct: *As colours become "faded," they lose their brightness or intensity.*

c. saturation of the colour we view.

d. wavelength of the colour we view.

Answer: b
Diff: 1

Type: MC
Page Reference: 69

Topic: Conceptual

Objective: 3.6 Define and compare the two theories of colour vision.

77) As other wavelengths of light are mixed with another wavelength, we can say the colour becomes

a. purer.

b. more intense.

c. a hue.

d. less saturated.

Correct: *The more pure a colour or hue, the more saturated it is. Therefore, as a colour is mixed with other wavelengths, it becomes less pure or saturated.*

Answer: d
Diff: 3

Type: MC
Page Reference: 69

Topic: Conceptual

Objective: 3.6 Define and compare the two theories of colour vision.

78) The dimensions of colour that we experience are

a. hue, brightness, and saturation.

Correct: *The three dimensions of colour that are most significant to us in terms of our visual experience are hue, brightness and saturation.*

b. brightness, intensity and hue.

c. purity, intensity and wavelength.

d. hue, wavelength and intensity.

Answer: a
Diff: 2

Type: MC
Page Reference: 69

Topic: Factual

Objective: 3.6 Define and compare the two theories of colour vision.

79) Hue is to _____ of light as brightness is to _____ of light.

a. wavelength; purity

b. wavelength; intensity

Correct: *Hue refers to the length of the light waves that are perceived by our eyes, while the brightness has to do with the intensity of the light waves.*

c. intensity; purity

d. wave complexity; intensity

Answer: b
Diff: 2

Type: MC
Page Reference: 69

Topic: Conceptual

Objective: 3.6 Define and compare the two theories of colour vision.

80) Brightness is determined by _____ and hue is determined by _____.

a. wavelength; intensity

b. wavelength; saturation

c. intensity; saturation

d. intensity; wavelength

Correct: *The intensity of a colour is referred to as its brightness, while the wavelength of a colour determines its hue.*

Answer: d
Diff: 2

Type: MC
Page Reference: 69

Topic: Conceptual

Objective: 3.6 Define and compare the two theories of colour vision.

81) Which of the following colours has the longest wavelength (highest in nanometres)?

a. yellow

b. green

c. blue

d. red

Correct: *In the colour spectrum, the longest wavelengths are those associated with the colour red.*

Answer: d
Diff: 3

Type: MC
Page Reference: 69

Topic: Factual

Objective: 3.6 Define and compare the two theories of colour vision.

82) Which of the following colours has the shortest wavelength (lowest in nanometres)?

a. green

b. yellow

c. red

d. blue

Correct: *In the colour spectrum, the shortest wavelengths are those associated with the colour blue.*

Answer: d
Diff: 3

Type: MC
Page Reference: 69

Topic: Factual

Objective: 3.6 Define and compare the two theories of colour vision.

83) According to trichromatic theory, which of the following colours is not a colour to which one of the cone types is maximally sensitive?

a. Yellow

Correct: *According to trichromatic theory, our cones are particularly sensitive to blue, green and red.*

b. Green

c. Red

d. Blue

Answer: a
Diff: 3

Type: MC
Page Reference: 69

Topic: Conceptual

Objective: 3.6 Define and compare the two theories of colour vision.

84) According to the trichromatic theory of colour vision,

a. colour vision can be explained on the basis of three types of cones, which are maximally sensitive to red, green or blue

Correct: *The trichromatic theory of colour suggests that each of our cones is particularly sensitive to one of three colours: red, green or blue.*

b. we are taught to recognize colours by three sources: parents, schools and society.

c. colour signal detection depends on the presence of sufficient light to register the three primary colours.

d. colour vision is a process of opponent receptors integrating their information to build each colour pattern.

Answer: a
Diff: 2

Type: MC
Page Reference: 69

Topic: Conceptual

Objective: 3.6 Define and compare the two theories of colour vision.

85) Randy spent agonizing hours in front of a green computer screen writing his term paper. At one point, he stopped staring at the screen and glanced upon a white wall. The wall temporarily seemed to have a square patch of

a. yellow and blue.

b. red.

Correct: *Opponent-process theory accounts for the presence of the afterimage when we have stared for any length of time at an image of a particular colour.*

c. white.

d. green.

Answer: b
Diff: 3

Type: MC
Page Reference: 69

Topic: Applied

Objective: 3.6 Define and compare the two theories of colour vision.

86) Sensations of complementary colours that occur after staring at a stimulus of a given colour are called

a. negative afterimages.

Correct: *Afterimages are those sensations we experience after staring for any length of time at an image of a particular colour. The afterimage is typically the complementary colour of the image we view for several seconds.*

b. extrasensory perceptions.

c. figure-ground figures.

d. trichromatic images.

Answer: a
Diff: 2

Type: MC
Page Reference: 69

Topic: Conceptual

Objective: 3.6 Define and compare the two theories of colour vision.

87) A negative afterimage occurs

a. when you see the colour opposite to the one at which you have been staring.

Correct: *Afterimages are those sensations we experience after staring for any length of time at an image of a particular colour. The afterimage is typically the complementary colour of the image we view for several seconds.*

b. when you see a shape emerge from an ambiguous image.

c. when you see the flash of a camera for several moments after the picture was taken.

d. when special glasses allow you to see an unpleasant image that has been disguised in a pleasant image.

Answer: a
Diff: 2

Type: MC
Page Reference: 69

Topic: Conceptual

Objective: 3.6 Define and compare the two theories of colour vision.

88) According to the explanation given in the text, the negative afterimage is best explained by which of the following theories?

a. Place theory.

b. Opponent-process theory.

Correct: *Opponent-process theory accounts for the presence of the afterimage when we have stared for any length of time at an image of a particular colour.*

c. Signal detection theory.

d. Trichromatic theory of colour vision.

Answer: b
Diff: 2

Type: MC
Page Reference: 69

Topic: Factual

Objective: 3.6 Define and compare the two theories of colour vision.

89) Which of the following theories best explains the phenomena of afterimages and the perception of the colour yellow?

a. Frequency theory

b. Trichromatic theory

c. Signal detection theory

d. Opponent-process theory

Correct: *Opponent-process theory accounts for the presence of the afterimage when we have stared for any length of time at an image of a particular colour. As well, opponent-process theory proposes ideas about how we see certain colours, such as yellow.*

Answer: d
Diff: 2

Type: MC
Page Reference: 69

Topic: Factual

Objective: 3.6 Define and compare the two theories of colour vision.

90) According to this theory, three classes of cells respond by increasing or decreasing their rate of firing when different colours are present.

a. Frequency theory

b. Trichromatic theory

c. Opponent-process theory

Correct: *Opponent-process theory accounts for the presence of the afterimage when we have stared for any length of time at an image of a particular colour. As well, opponent-process theory proposes ideas about how we see certain colours, such as yellow.*

d. Signal detection theory

Answer: c
Diff: 2

Type: MC
Page Reference: 69

Topic: Factual

Objective: 3.6 Define and compare the two theories of colour vision.

91) Research proposes that the opponent-process theory explains what happens in the

a. ganglion cells.

Correct: *As part of the explanation of colour vision, it is believed that the opponent-process theory best explains what occurs in the ganglion cells.*

b. lens.

c. rhodopsin cells.

d. fovea.

Answer: a
Diff: 2

Type: MC
Page Reference: 69

Topic: Factual

Objective: 3.7 Explain the relative contributions of the two theories of colour vision.

92) Two major theories that attempt to explain colour vision are

a. the opponent-process theory and wavelength theory.

b. the trichromatic theory and wavelength theory.

c. the trichromatic theory and the opponent-process theory.

Correct: *The most popular current theories to explain how and why we see colour are opponent-process theory, and the trichromatic theory.*

d. the sensory receptor theory and wavelength theory.

Answer: c
Diff: 1

Type: MC
Page Reference: 69

Topic: Factual

Objective: 3.7 Explain the relative contributions of the two theories of colour vision.

93) While the trichromatic theory of color perception was first formulated in the 1800's; research in 1960s suggested that there were _____ kinds of cones and that each was sensitive to either _____.

a. two…red, blue

b. three…red, green, white

c. two…red; green

d. three…red, green, blue

Correct: *All colors can be mixed from these three colors.*

Answer: d
Diff: 1

Type: MC
Page Reference: 69

Topic: Factual

Objective: 3.7 Explain the relative contributions of the two theories of colour vision.

94) Colour blindness is the inability to distinguish certain colours from one another. It involves some kind of difficulty in distinguishing colours, most commonly

a. red from yellow.

b. red from green.

Correct: *This is the most common form of colour blindness.*

c. green from blue.

d. all colours from grey.

Answer: b
Diff: 1

Type: MC
Page Reference: 70

Topic: Factual

Objective: 3.8 Define colour blindness.

95) Research has shown that colour blindness can have many degrees caused by

a. the density of the retina.

b. anatomical differences in ganglion cells.

c. the number of colour-vision genes an individual has.

Correct: *Researchers have found that, in people with normal colour vision, the X chromosomes may contain as few as two or as many as nine genes for colour perception*

d. the density of rhodopsin expressing cells in the primary visual cortex.

Answer: c
Diff: 1

Type: MC
Page Reference: 70

Topic: Conceptual

Objective: 3.8 Define colour blindness.

96) Which is the most accurate statement?

a. The ratio of colour blindness for males and females differs significantly across races.

b. The rate of colour blindness is about the same for males and females.

c. More females than males suffer from colour n.

d. More males than females suffer from colour blindness.

Correct: *About 8 percent of males and 1 percent of females suffer from colour blindness.*

Answer: d
Diff: 2

Type: MC
Page Reference: 70

Topic: Conceptual

Objective: 3.8 Define colour blindness.

97) Each of the following statements about all colour-blind people is true, ***except***

a. “They are usually aware of their problem.”

b. “Most of them see the world in black, white and shades of grey.”

Correct: *Most people who experience colour blindness see some colours very well. They are not devoid of any experience of colour.*

c. “They usually are unable to distinguish certain colours, but rarely have total absence of colour vision.”

d. “They lack normal genes for the three colour pigments.”

Answer: b
Diff: 2

Type: MC
Page Reference: 70

Topic: Conceptual

Objective: 3.8 Define colour blindness.

98) The higher the frequency of a sound wave, the

a. louder the sound.

b. lower the pitch.

c. higher the pitch.

Correct: *Generally, the higher the frequency of a sound, the higher its pitch.*

d. softer the sound.

Answer: c
Diff: 2

Type: MC
Page Reference: 80

Topic: Conceptual

Objective: 3.9 Identify and define the major structures used for hearing.

99) The greater the _____ of sound waves, the louder the sound.

a. amplitude

Correct: *The amplitude of a sound wave determines its volume.*

b. length

c. frequency

d. mixture

Answer: a
Diff: 2

Type: MC
Page Reference: 71

Topic: Conceptual

Objective: 3.9 Identify and define the major structures used for hearing.

100) Pitch is chiefly determined by _____; loudness is chiefly determined by _____.

a. wavelength; frequency

b. frequency; amplitude

Correct: *The pitch of a sound is determined by its frequency, while its amplitude determines its loudness.*

c. intensity; amplitude

d. amplitude; frequency

Answer: b
Diff: 2

Type: MC
Page Reference: 71

Topic: Conceptual

Objective: 3.9 Identify and define the major structures used for hearing.

101) The pitch of a sound is measured in _____ and the loudness of a sound is measured in _____.

a. wavelength; amplitude

b. decibels; hertz

c. amplitude; wavelength

d. hertz; decibels

Correct: *The measure of pitch is in hertz, while the amplitude of a sound is measured in decibels.*

Answer: d
Diff: 2

Type: MC
Page Reference: 71

Topic: Factual

Objective: 3.9 Identify and define the major structures used for hearing.

102) Each of the following statements is true of the frequency of a sound, except:

a. “It chiefly determines the pitch of a sound.”

b. “It refers to the number of cycles of a sound wave completed each second.”

c. “It is measured in decibels.”

Correct: *The frequency of a sound relates to its pitch, which is measured in hertz, not decibels.*

d. “It determines how high or low the sound will be.”

Answer: c
Diff: 2

Type: MC
Page Reference: 71

Topic: Conceptual

Objective: 3.9 Identify and define the major structures used for hearing.

103) Each of the following statements is true of the amplitude of sound, except

a. "It is chiefly the pitch of a sound."

Correct: *The amplitude of sound is related to its volume or loudness, not its pitch.*

b. "It depends on the magnitude of a sound wave."

c. "It is measured in decibels."

d. "It depends on the energy of a sound wave."

Answer: a
Diff: 2

Type: MC
Page Reference: 71

Topic: Conceptual

Objective: 3.9 Identify and define the major structures used for hearing.

104) The abbreviation "0 dB" means:

a. absolute silence–no sounds at all being made.

b. the amplitude of a normal conversation.

c. the softest sound which can be heard in a very quiet setting.

Correct: *The abbreviation is translated as "zero decibels," which means virtually no sound, except the quietest signal we can detect under optimum conditions.*

d. ten times a bel, the unit in which loudness is measured.

Answer: c
Diff: 2

Type: MC
Page Reference: 71

Topic: Factual

Objective: 3.9 Identify and define the major structures used for hearing.

105) The distinct quality of sound that distinguishes it from other sounds of the same pitch and loudness is called

a. timbre.

Correct: *The concept of "timbre" refers to the quality of a sound that distinguishes it from similar sounds made by other comparable sources—for example, middle C on a grand piano versus middle C on an old upright piano.*

b. frequency.

c. distortion.

d. amplitude.

Answer: a
Diff: 2

Type: MC
Page Reference: 72

Topic: Conceptual

Objective: 3.9 Identify and define the major structures used for hearing.

106) The distinct quality of sound that distinguishes a trumpet from a trombone at the same pitch and loudness is called

a. timbre.

Correct: *The concept of "timbre" refers to the quality of a sound that distinguishes it from similar sounds made by other comparable sources, such as the same note made by a trumpet and trombone, at the same volume.*

b. frequency.

c. distortion.

d. amplitude.

Answer: a
Diff: 2

Type: MC
Page Reference: 72

Topic: Applied

Objective: 3.9 Identify and define the major structures used for hearing.

107) The sensation, or process, of hearing is called

a. audition.

Correct: *The formal term associated with the process of hearing is audition.*

b. gustation.

c. rarefaction.

d. olfaction.

Answer: a
Diff: 1

Type: MC
Page Reference: 72

Topic: Factual

Objective: 3.9 Identify and define the major structures used for hearing.

108) Which part of the ear is it now popular to get pierced?

a. eardrum

b. pinna

Correct: *The pinna is the outermost part of the ear, which is also the part we see and, occasionally, pierce.*

c. cochlea

d. oval window

Answer: b
Diff: 1

Type: MC
Page Reference: 73

Topic: Conceptual

Objective: 3.9 Identify and define the major structures used for hearing.

109) Which part of the ear contains the pinna and auditory canal?

a. outer ear

Correct: *The pinna, the part of the ear we see, and the auditory canal—the opening into which sound is carried—form the parts of the ear known as the "outer" ear.*

b. inner ear

c. vestibule

d. middle ear

Answer: a

Diff: 1

Type: MC
Page Reference: 73

Topic: Factual

Objective: 3.9 Identify and define the major structures used for hearing.

110) Another name for the tympanic membrane is the

a. eustachian tube.

b. oval window.

c. cochlea.

d. eardrum.

Correct: *The eardrum is also known as the typanic membrane.*

Answer: d
Diff: 2

Type: MC
Page Reference: 73

Topic: Factual

Objective: 3.9 Identify and define the major structures used for hearing.

111) The ossicles—the hammer, anvil and stirrup—are found in the

a. outer ear.

b. vestibule.

c. middle ear.

d. inner ear.

Answer: c
Diff: 2

Type: MC
Page Reference: 73

Topic: Factual

Objective: 3.9 Identify and define the major structures used for hearing.

112) Which part of the ear contains the anvil, hammer and stirrup?

a. eustachian area

b. inner ear

c. middle ear

Correct: *The oval window marks the beginning of the inner ear. Next to it are the ossicles, which include the anvil, hammer and stirrup.*

d. outer ear

Answer: c
Diff: 1

Type: MC
Page Reference: 73

Topic: Factual

Objective: 3.9 Identify and define the major structures used for hearing.

113) Which part of the ear contains the cochlea and hair cells?

a. Semicircular canals

b. Outer ear

c. Middle ear

d. Inner ear

Correct: *Included in the inner ear is the cochlea, inside which are found the hair cells.*

Answer: d
Diff: 1

Type: MC
Page Reference: 73

Topic: Factual

Objective: 3.9 Identify and define the major structures used for hearing.

114) The receptors for hearing are found in the

a. ossicles.

b. auditory canal.

c. cochlea.

Correct: *The sensory receptors for hearing are the hair cells found within the cochlea.*

d. auditory membrane.

Answer: c
Diff: 2

Type: MC

Page Reference: 73

Topic: Factual

Objective: 3.9 Identify and define the major structures used for hearing.

115) The hair cells are contained

a. within the cochlea.

Correct: *The sensory receptors for hearing are the hair cells found within the cochlea.*

b. along the inner membrane of the eardrum.

c. in the tiny bones of the inner ear.

d. within the auditory nerve.

Answer: a
Diff: 2

Type: MC
Page Reference: 73

Topic: Factual

Objective: 3.9 Identify and define the major structures used for hearing.

116) Rods and cones are to vision as _____ are to hearing.

a. eardrums

b. hair cells

Correct: *The sensory receptors for vision are the rods and cones, just as the sensory receptors for hearing are the hair cells.*

c. pinnas

d. oval windows

Answer: b
Diff: 2

Type: MC
Page Reference: 73

Topic: Conceptual

Objective: 3.9 Identify and define the major structures used for hearing.

117) Which of the following is ***not*** a true statement about hair cells?

a. Hair cells play a role in both place theory and frequency theory.

b. The hair cells in the inner ear are continuously replacing themselves.

Correct: *There are about 15 000 hair cells, and their existence helps to explain both place and frequency theory. They are, indeed, the sensory receptors for hearing. However, there is no indication that these cells are replaceable.*

c. Hair cells are the sensory receptors for hearing.

d. There are about 15 000 hair cells in the cochlea.

Answer: b
Diff: 2

Type: MC
Page Reference: 73

Topic: Factual

Objective: 3.9 Identify and define the major structures used for hearing.

118) Extremely loud noise can damage all of the following, except

a. the pinna.

Correct: *The pinna is the outer ear, which is not susceptible to damage due to lengthy or repeated exposure to loud noise.*

b. the hair cells in the cochlea.

c. the eardrum.

d. the ossicles.

Answer: a
Diff: 2

Type: MC
Page Reference: 74

Topic: Conceptual

Objective: 3.10 Compare and contrast the two theories of hearing.

119) The two major theories that attempt to explain hearing are

a. hair cell theory and frequency theory.

b. conduction theory and place theory.

c. place theory and frequency theory.

Correct: *As in theories of vision, two main theories exist to explain hearing: place theory and frequency theory.*

d. conduction theory and hair cell theory.

Answer: c
Diff: 2

Type: MC
Page Reference: 73

Topic: Factual

Objective: 3.10 Compare and contrast the two theories of hearing.

120) Today researchers believe that frequency theory best explains how we perceive _____ and that place theory best explains how we perceive _____.

a. the human voice; environmental sounds

b. low frequencies; the remaining frequencies

Correct: *Each theory cannot explain how we perceive all frequencies. Perception of the lower and mid-range frequencies is best explained by frequency theory, while place theory best explains all other frequencies.*

c. high frequencies; middle frequencies

d. multiple sounds; singular sounds

Answer: b
Diff: 2

Type: MC
Page Reference: 74

Topic: Factual

Objective: 3.10 Compare and contrast the two theories of hearing.

121) Which theory holds that the pitch we hear is determined by the particular location on the basilar membrane where the hair cells vibrate the most?

a. Place theory

Correct: *Place theory proposes that the pitch of a sound causes a particular location on the basilar membrane to vibrate.*

b. Field theory

c. Localization theory

d. Frequency theory

Answer: a
Diff: 2

Type: MC
Page Reference: 73

Topic: Factual

Objective: 3.10 Compare and contrast the two theories of hearing.

122) Which of the following theories suggests that sounds of different pitch cause the hair cells to vibrate at different rates?

a. Hair cell theory

b. Opponent-process theory

c. Frequency theory

Correct: *Frequency theory proposes that the hair cells in the inner ear vibrate according to the frequency of the incoming sound.*

d. Place theory

Answer: c
Diff: 2

Type: MC
Page Reference: 73

Topic: Factual

Objective: 3.10 Compare and contrast the two theories of hearing.

123) Place theory and frequency theory are two explanations of

a. pitch perception.

Correct: *How we perceive pitch is explained, in part, by both place theory and frequency theory.*

b. colour blindness.

c. auditory threshold shift.

d. sound localization.

Answer: a
Diff: 2

Type: MC
Page Reference: 73

Topic: Factual

Objective: 3.10 Compare and contrast the two theories of hearing.

124) Frequency theory has difficulty explaining the ability to perceive

a. low-pitched sounds.

b. high-pitched sounds.

Correct: *Perception of the lower and mid-range frequencies is best explained by frequency theory, while place theory best explains all other frequencies.*

c. differences in pitches.

d. very low and very high pitches.

Answer: b
Diff: 3

Type: MC
Page Reference: 73

Topic: Factual

Objective: 3.10 Compare and contrast the two theories of hearing.

125) Concerning the relative merits of place theory and frequency theory, most researchers

a. prefer a combination of place and frequency theories.

Correct: *Each theory cannot explain how we perceive all frequencies. Perception of the lower and mid-range frequencies is best explained by frequency theory, while place theory best explains all other frequencies.*

b. prefer frequency theories.

c. reject both theories.

d. prefer place theories.

Answer: a
Diff: 2

Type: MC
Page Reference: 74

Topic: Conceptual

Objective: 3.10 Compare and contrast the two theories of hearing.

126) _____ hearing loss is usually caused by disease or injury to the eardrum or the bones of the middle ear, with the result that sound waves cannot be conducted to the cochlea.

a. Conductive

Correct: *Conductive hearing loss is usually caused by disease or injury to the eardrum or the bones of the middle ear, with the result that sound waves cannot be conducted to the cochlea.*

b. Sensorineural

c. Mabaan

d. Inner ear

Answer: a
Diff: 2

Type: MC
Page Reference: 74

Topic: Conceptual

Objective: 3.10 Compare and contrast the two theories of hearing.

127) Many people over the age of 60 suffer from gradual hearing loss that involves damage either to the

a. ossicles or to the oval window.

b. auditory canal or to the semicircular canals.

c. hair cells or to the eardrum.

d. cochlea or to the auditory nerve.

Correct: *The two locations of damage that result in hearing loss in people over the age of 60 are the cochlea and the auditory nerve.*

Answer: d
Diff: 2

Type: MC
Page Reference: 74

Topic: Factual

Objective: 3.10 Compare and contrast the two theories of hearing.

128) What kind(s) of hearing loss can sometimes be helped by a hearing aid that bypasses the middle ear and uses bone conduction to reach the cochlea?

a. Nerve deafness

b. Conductive hearing loss

Correct: *Conductive hearing loss describes damage to hearing caused by disease or injury to the eardrum or the bones of the middle ear. As a result, bone conduction can assist these individuals, and fitting them with a hearing aid is often the remedy.*

c. Both conductive hearing loss and nerve deafness

d. Neither conductive hearing loss nor nerve deafness

Answer: b
Diff: 2

Type: MC
Page Reference: 74

Topic: Factual

Objective: 3.10 Compare and contrast the two theories of hearing.

129) Which factor seems to play the biggest role in nerve deafness?

a. Disease

b. Life-long exposure to excessive noise

Correct: *The study of cultures in which hearing loss is uncommon even among the elderly seems to suggest that life-long exposure to noise is a better explanation of hearing loss than simply the aging process.*

c. Birth defects

d. Aging

Answer: b
Diff: 2

Type: MC
Page Reference: 74

Topic: Factual

Objective: 3.10 Compare and contrast the two theories of hearing.

130) According to the text, all of the following has been found to cause hearing loss, except

a. white noise.

Correct: *White noise is not known to cause hearing loss, except at very high volumes, which are not common.*

b. loud toy weapons.

c. rock concerts.

d. some squeaky toys for infants.

Answer: a
Diff: 2

Type: MC
Page Reference: 74

Topic: Conceptual

Objective: 3.10 Compare and contrast the two theories of hearing.

131) The "chemical senses" are senses for

a. smell and taste.

Correct: *The sense of smell is considered a chemical sense because in order to experience scents, molecules from the source must pass into a gaseous state. Because the sense of taste is heavily dependent on the sense of smell, it too is considered a chemical sense.*

b. vision and hearing.

c. detection of pain, pressure and temperature change.

d. touch and taste.

Answer: a
Diff: 1

Type: MC
Page Reference: 75

Topic: Conceptual

Objective: 3.11 Define olfaction and gustation.

132) Olfaction is the sense of

a. touch.

b. smell.

Correct: *Another name for the sense of smell is olfaction.*

c. taste.

d. balance.

Answer: b
Diff: 1

Type: MC
Page Reference: 75

Topic: Factual

Objective: 3.11 Define olfaction and gustation.

133) In order for us to smell a substance, some of its molecules must pass into

a. a solid state.

b. a gaseous state.

Correct: *The only way we smell anything is through the process of liquid or solid molecules passing into a gaseous state.*

c. a liquid state.

d. a particulate state.

Answer: b
Diff: 2

Type: MC
Page Reference: 75

Topic: Factual

Objective: 3.11 Define olfaction and gustation.

134) Where in the nasal cavity is the olfactory epithelium located?

a. In the middle

b. Throughout

c. On the outer edge

d. At the top

Correct: *The olfactory epithelium is located at the top of the nasal cavity, in the area of the sinuses.*

Answer: d
Diff: 2

Type: MC
Page Reference: 75

Topic: Factual

Objective: 3.11 Define olfaction and gustation.

135) The olfactory, or smell, receptors are located in the

a. olfactory bulbs.

b. olfactory nerve.

c. olfactory epithelium.

Correct: *The smell receptors are olfactory neurons, which are contained in the olfactory epithelium.*

d. olfactory tract.

Answer: c

Diff: 2

Type: MC
Page Reference: 75

Topic: Factual

Objective: 3.11 Define olfaction and gustation.

136) Which of the following statements about olfactory receptors is **not** true?

a. Stronger odours cause more olfactory receptors to respond or fire than weaker odours do.

b. The axons of the olfactory receptor cells reach directly into the brain.

c. There are at least 1000 different types of olfactory receptors for different odours.

d. The site for discrimination of odours is in the brain, rather than in the olfactory receptors.

Correct: *As in the case with all sense receptors, the site for discrimination of olfactory senses is not located in the brain. Rather, in the case of the sense of smell, the receptors are located in the olfactory epithelium, which is at the top of the nasal cavities.*

Answer: d
Diff: 3

Type: MC
Page Reference: 75

Topic: Conceptual

Objective: 3.11 Define olfaction and gustation.

137) The olfactory bulbs serve to

a. protect the vestibular membrane.

b. relay messages to different parts of the brain.

Correct: *The olfactory bulbs receive information coming from the olfactory epithelium and pass that information directly to the brain.*

c. generate the turbinate mucous necessary to coat the olfactory epithelium.

d. prevent bad smells from being inhaled.

Answer: b
Diff: 2

Type: MC
Page Reference: 75

Topic: Factual

Objective: 3.11 Define olfaction and gustation.

138) Researchers have found that animals excrete _____ to mark off territory and signal sexual receptivity.

a. pheromones

Correct: *Pheromones are scent markers that signal both an animal's territory, and its readiness to mate.*

b. gustatory markers

c. olfactory essences

d. hormones

Answer: a
Diff: 2

Type: MC
Page Reference: 76

Topic: Factual

Objective: 3.11 Define olfaction and gustation.

139) Gustation refers to the sense of

a. touch.

b. smell

c. vision.

d. taste.

Correct: *Another name for the sense of taste is "gestation."*

Answer: d
Diff: 1

Type: MC
Page Reference: 76

Topic: Factual

Objective: 3.11 Define olfaction and gustation.

140) How many basic tastes exist?

a. 4

b. 6

c. 5

Correct: *The five basic tastes known to exist are sweet, sour, salty, bitter and umami.*

d. 3

Answer: c
Diff: 1

Type: MC
Page Reference: 76

Topic: Factual

Objective: 3.11 Define olfaction and gustation.

141) Which of the following is ***not*** a basic taste for humans?

a. bitter

b. tangy

Correct: *The five basic tastes known to exist in humans are sweet, sour, salty, bitter and umami.*

c. sweet

d. salty

Answer: b
Diff: 1

Type: MC
Page Reference: 76

Topic: Factual

Objective: 3.12 Identify the structures and the role of the structures used for smell and taste.

142) The sensory receptors for taste are located in the

a. papillae.

b. brain.

c. taste buds.

Correct: *The papillae contain the taste buds, which are the taste receptors, and are located all over the tongue.*

d. centre of the tongue.

Answer: c
Diff: 1

Type: MC
Page Reference: 76

Topic: Factual

Objective: 3.12 Identify the structures and the role of the structures used for smell and taste.

143) The receptor cells for taste

a. are extremely hardy and should last a lifetime.

b. are as fragile as the receptor cells for hearing and when they are damaged, they are not replaced.

c. are all present at birth and continue to decrease over the lifespan.

d. have a lifespan of about ten days and continuously replace themselves.

Correct: *Taste receptor cells only live about 10 days and frequently replace themselves.*

Answer: d
Diff: 3

Type: MC
Page Reference: 76

Topic: Factual

Objective: 3.12 Identify the structures and the role of the structures used for smell and taste.

144) A professional wine taster must have a good

a. gustatory sense.

b. gustatory and olfactory sense.

Correct: *The sense of taste relies quite heavily on the olfactory sense as well. To be a "supertaster," one must have a healthy sense of olfaction as well as gustation.*

c. olfactory sense.

d. vestibular sense.

Answer: b
Diff: 2

Type: MC
Page Reference: 76

Topic: Conceptual

Objective: 3.12 Identify the structures and the role of the structures used for smell and taste.

145) What would be the most painless way to take some terrible-tasting medicine?

a. Hold your nose when you take it.

Correct: *Because the sense of smell is closely tied to the sense of taste, holding one's nose when ingesting a substance will dramatically reduce the gustatory sensation.*

b. Drink salty water before taking the medicine.

c. Close your eyes and have someone give it to you.

d. Add sugar to the medicine.

Answer: a
Diff: 2

Type: MC
Page Reference: 76

Topic: Applied

Objective: 3.12 Identify the structures and the role of the structures used for smell and taste.

146) Most of the sensory enjoyment we derive from eating a gourmet dinner is actually due to

a. the experience of the meal.

b. the texture of the food.

c. our sense of taste.

d. our sense of smell.

Correct: *It is impossible for most humans to taste food without the ability to smell it at the same time. Our sense of taste relies quite heavily on our sense of smell.*

Answer: d
Diff: 3

Type: MC
Page Reference: 76

Topic: Conceptual

Objective: 3.12 Identify the structures and the role of the structures used for smell and taste.

147) According to the text, supertasters have _____ people with a reduced ability to taste.

a. five different types of papillae, while only three type are found in

b. four times as many taste buds as

Correct: *Supertasters are reported to have up to four times as many taste buds as people who do not taste food as well as most people.*

c. the smallest number of taste buds, compared to

d. half as many taste buds as

Answer: b
Diff: 2

Type: MC
Page Reference: 86

Topic: Factual

Objective: 3.12 Identify the structures and the role of the structures used for smell and taste.

148) Researchers have found that the five tastes

a. stimulate every taste bud equally.

b. are really only two tastes, when we hold our noses.

c. are detected by specialized cells for each taste.

d. can be detected by taste buds on all locations of the tongue.

Correct: *All areas of the tongue are capable of detecting all taste sensations.*

Answer: d
Diff: 2

Type: MC
Page Reference: 76

Topic: Factual

Objective: 3.12 Identify the structures and the role of the structures used for smell and taste.

149) Which of the following does ***not*** accurately portray your skin senses?

a. Your skin is your largest sensory organ.

b. Each type of skin receptor responds to only one particular type of sensation.

Correct: *Most nerve endings in the skin respond to all types of tactile sensations; receptors are not specialized in the type of sensation they detect.*

c. Your skin detects a variety of touch sensations.

d. Different parts of the body vary in their sensitivity to touch.

Answer: b
Diff: 2

Type: MC
Page Reference: 77

Topic: Conceptual

Objective: 3.13 Explain how the skin provides sensory information.

150) Which of the following accurately portrays your skin senses?

a. Different parts of your body are fairly equal in their sensitivity to touch.

b. Your skin is your largest sensory organ.

Correct: *Because sense receptors exist all over the body, the skin is, in fact, the largest sensory organ.*

c. Receptors in the skin are evenly distributed throughout the body.

d. Each type of skin receptor responds to a particular type of sensation.

Answer: b
Diff: 2

Type: MC
Page Reference: 77

Topic: Conceptual

Objective: 3.13 Explain how the skin provides sensory information.

151) Which of the following stimulates the largest sense organ you possess?

a. A sip of lemonade.

b. A handshake.

Correct: *Because sense receptors exist all over the body, the skin is, in fact, the largest sensory organ. A handshake is the only one of the options that stimulates the tactile sense.*

c. The glare of headlights.

d. The roar of a jet plane taking off.

Answer: b
Diff: 2

Type: MC
Page Reference: 77

Topic: Conceptual

Objective: 3.13 Explain how the skin provides sensory information.

152) In which of these body locations would you expect to find the least dense concentration of touch receptors?

a. Fingertips

b. Face

c. Legs

Correct: *Of all the regions of the body, the legs are among the least sensitive to touch.*

d. Lips

Answer: c
Diff: 2

Type: MC
Page Reference: 78

Topic: Conceptual

Objective: 3.13 Explain how the skin provides sensory information.

153) Which of the following is ***not*** a major type of chronic pain?

a. lower back

b. arthritic

c. headache

d. chest

Correct: *Chest pain is generally acute, not chronic.*

Answer: d
Diff: 2

Type: MC
Page Reference: 78

Topic: Factual

Objective: 3.13 Explain how the skin provides sensory information.

154) With the exception of chronic pain, pain

a. can lead to bad things.

b. is important for our safety.

Correct: *Since pain signals the need to attend to an injury, to avoid those activities that may cause injury, or warns us when activity must be restricted, it is a stimulus that aids in keeping us safe from harm.*

c. only causes suffering.

d. is not a very good thing.

Answer: b
Diff: 1

Type: MC
Page Reference: 78

Topic: Conceptual

Objective: 3.13 Explain how the skin provides sensory information.

155) Which of the following is ***not*** a good or beneficial form of pain?

a. A chronic backache, that remains constant for months

Correct: *Any form of chronic pain typically persists long after its signal has stopped being useful to us.*

b. The sharp sense of pain as we bite our tongue while eagerly chewing our food

c. A sudden temporary pain in a muscle as we try to lift a heavy object

d. The sense of burning heat as our hand gets too near to the burner on the stove

Answer: a
Diff: 3

Type: MC
Page Reference: 78

Topic: Conceptual

Objective: 3.13 Explain how the skin provides sensory information.

156) Which of the following is ***not*** an example of chronic pain?

a. Headache

b. A black fly bite

Correct: *Though the pain associated with a black fly bite may last for hours or longer, it is not considered chronic.*

c. Arthritis pain

d. Low-back pain

Answer: b
Diff: 2

Type: MC
Page Reference: 78

Topic: Conceptual

Objective: 3.13 Explain how the skin provides sensory information.

157) Melzack and Wall have suggested a theory of pain called the

a. chronic pain theory.

b. Theory "P".

c. gate-control theory.

Correct: *They suggest that an area of the spinal cord acts a pain gate.*

d. neuro-pain theory.

Answer: c
Diff: 2

Type: MC
Page Reference: 78

Topic: Conceptual

Objective: 3.14 Explain the gate-control theory.

158) Why do we naturally rub an area of the body that we have hit or stimulated in such a way that we expect pain?

a. It is a superstition.

b. We are trying to encourage endorphin release in that area.

c. We are doing natural acupressure.

d. We are stimulating slow acting nerves to compete with pain carrying nerves at the "pain gate."

Correct: *If you rub or apply gentle pressure to the injury, you are stimulating the large, fast-conducting nerve fibres to send their message to the spinal gate*

Answer: d
Diff: 2

Type: MC
Page Reference: 78

Topic: Conceptual

Objective: 3.14 Explain the gate-control theory.

159) Gate-control theory has been formulated to explain the sensation of

a. taste.

b. pressure.

c. pain.

Correct: *One theory that explains the nature of pain is the gate-control theory, proposed by Melzack and Wall of McGill University.*

d. smells.

Answer: c
Diff: 2

Type: MC
Page Reference: 78

Topic: Factual

Objective: 3.14 Explain the gate-control theory.

160) What theory suggests that nerve fibres carrying messages that pressure is being applied to some part of the body can prevent pain messages from getting through to the brain?

a. The volley principle

b. Opponent-process theory

c. The Gestalt principle

d. Gate-control theory

Correct: *According to this theory, only so many messages can reach the brain through the spinal column. By sending a tactile message (for example, pressure or massaging) at the same time that pain is being experienced, we are effectively blocking the gate with the more pleasurable message, thereby not allowing the pain message to get to the brain.*

Answer: d
Diff: 2

Type: MC
Page Reference: 78

Topic: Factual

Objective: 3.14 Explain the gate-control theory.

161) According to the gate-control theory of pain, where are the neural mechanisms that close and thus prevent pain messages from reaching the brain?

a. In the peripheral nervous system

b. In the spinal cord

Correct: *According to this theory, only so many messages can reach the brain through the spinal column. By sending a tactile message (for example, pressure or massaging) at the same time that pain is being experienced, we are effectively blocking the gate with the more pleasurable message, thereby not allowing the pain message to get to the brain.*

c. At the free nerve endings

d. At the site of the injury

Answer: b
Diff: 2

Type: MC
Page Reference: 78

Topic: Factual

Objective: 3.14 Explain the gate-control theory.

162) When Samantha stubbed her toe, she rubbed it and noticed that she was less aware of the pain. Samantha's experience is consistent with

a. place theory.

b. threshold theory.

c. gate-control theory.

Correct: *According to this theory, only so many messages can reach the brain through the spinal column. By sending a tactile message (for example, pressure or massaging) at the same time that pain is being experienced, we are effectively blocking the gate with the more pleasurable message, thereby not allowing the pain message to get to the brain.*

d. opponent-process theory.

Answer: c
Diff: 2

Type: MC
Page Reference: 78

Topic: Applied

Objective: 3.14 Explain the gate-control theory.

163) Which of the following is ***not*** a good way to control our experience of pain?

a. Large amounts of attention and sympathy from our family

Correct: *Distraction, relaxation techniques, and counter-irritation can aid in reducing the sensation of pain. Expressions of sympathy may help one's ego, but will do nothing to reduce the pain sensation.*

b. Relaxation techniques

c. Distraction

d. Counter-irritation

Answer: a
Diff: 1

Type: MC
Page Reference: 78

Topic: Conceptual

Objective: 3.14 Explain the gate-control theory.

164) Which of the following is a pain-relieving substance produced by the body?

a. Morphine

b. Naloxone

c. Placebo

d. Endorphins

Correct: *The body produces natural pain relievers in the form of endorphins.*

Answer: d
Diff: 1

Type: MC
Page Reference: 78

Topic: Factual

Objective: 3.15 Explain the role of endorphins.

165) A sense of elevated mood after exercising could be attributed to

a. tiredness.

b. endorphins.

Correct: *The body produces natural pain relievers in the form of endorphins, which are released in larger amounts after prolonged, rigorous exercise.*

c. epinephrine.

d. accomplishment.

Answer: b
Diff: 1

Type: MC
Page Reference: 78

Topic: Conceptual

Objective: 3.15 Explain the role of endorphins.

166) What do we call a sugar pill or an injection of saline solution that a patient believes is pain medication and actually sometimes leads to a reduction in pain?

a. Medical fraud

b. A placebo

Correct: *When subjects are given placebos in the form of a sugar pill or an injection that they believe to be pain medication, they often report a reduction in the pain sensation.*

c. Endorphins

d. Naloxone

Answer: b
Diff: 2

Type: MC
Page Reference: 79

Topic: Conceptual

Objective: 3.15 Explain the role of endorphins.

167) Which of the following methods of pain relief is believed to work by triggering the release of endorphins?

a. Relaxation

b. Acupuncture

Correct: *It is believed that acupuncture is successful because it stimulates the release of endorphins when needles are strategically placed at specific nerve endings.*

c. Hypnosis

d. Meditation

Answer: b
Diff: 2

Type: MC
Page Reference: 78

Topic: Factual

Objective: 3.15 Explain the role of endorphins.

168) We are able to know the position of body parts in relation to one another, and the movement in various body parts because of

a. the sense of touch.

b. the semicircular canals in our ears.

c. visual cues only.

d. the kinesthetic sense.

Correct: *Two elements constitute the kinesthetic sense: an awareness of the movement of body parts, and how body parts move in relation to each other.*

Answer: d
Diff: 2

Type: MC
Page Reference: 79

Topic: Conceptual

Objective: 3.16 Identify the kinds of information provided by the kinesthetic sense.

169) Our joints, ligaments and muscles hold receptors for our

a. sense of balance.

b. kinesthetic sense.

Correct: *The sense receptors for our kinesthetic sense are in the muscles, joints and ligaments.*

c. auditory needs.

d. sense of touch.

Answer: b
Diff: 2

Type: MC
Page Reference: 79

Topic: Factual

Objective: 3.16 Identify the kinds of information provided by the kinesthetic sense.

170) Nathan knows that his foot is tapping in time to the music even though it is dark and he cannot see his own foot. This information comes from his

a. haptic sense.

b. gustation sense.

c. vestibular sense.

d. kinesthetic sense.

Correct: *Two elements constitute the kinesthetic sense: an awareness of the movement of body parts, and how body parts move in relation to each other. Nathan is demonstrating an awareness of the movement of one of his body parts.*

Answer: d
Diff: 2

Type: MC
Page Reference: 79

Topic: Applied

Objective: 3.16 Identify the kinds of information provided by the kinesthetic sense.

171) Which of your senses provide information about body position, movement and acceleration?

a. Gustatory

b. Haptic

c. Vestibular

Correct: *When we demonstrate awareness of where we are in space, as well as in what direction and how quickly we are moving, we demonstrate our vestibular sense.*

d. Kinesthetic

Answer: c
Diff: 2

Type: MC
Page Reference: 81

Topic: Conceptual

Objective: 3.17 Describe the vestibular sense.

172) Terry cannot get her balance, nor move in a coordinated way. She may have problems with her

a. vestibular sense.

Correct: *When we demonstrate problems knowing where we are in space or with our balance, as well as in what direction and how quickly we are moving, we are considered to be struggling with out vestibular sense.*

b. olfactory sense.

c. kinesthetic sense.

d. tactile sense.

Answer: a
Diff: 2

Type: MC
Page Reference: 81

Topic: Applied

Objective: 3.17 Describe the vestibular sense.

173) What structures contain the receptors for the vestibular sense?

a. The cochlea and the semicircular canals

b. The cochlea and the vestibular sacs

c. The muscles, ligaments and joints

d. The semicircular canals and the vestibular sacs

Correct: *The sense receptors for the vestibular sense are housed in the semicircular canals, as well as the vestibular sacs within the inner ear.*

Answer: d
Diff: 3

Type: MC
Page Reference: 80-81

Topic: Factual

Objective: 3.17 Describe the vestibular sense.

174) The receptors that detect movement and provide information about orientation in space are located in

a. the outer ear.

b. the Merkel's disks.

c. the middle ear.

d. the inner ear.

Correct: *The sense receptors for the vestibular sense are housed in the semicircular canals, as well as the vestibular sacs within the inner ear.*

Answer: d

Diff: 2

Type: MC
Page Reference: 81

Topic: Factual

Objective: 3.17 Describe the vestibular sense.

175) Which of the following is not a type of motion that is easily detected by the vestibular system?

a. Constant motion

Correct: *The vestibular system can only detect changes in direction or speed. Constant motion, therefore, is not detected by the vestibular system.*

b. Different direction in motion

c. Initiation of motion

d. Accelerating motion

Answer: a
Diff: 2

Type: MC
Page Reference: 81

Topic: Conceptual

Objective: 3.17 Describe the vestibular sense.

176) Which of the following groups of psychologists was the first to study aspects of perceptual organization systematically?

a. Gestalt

Correct: *The focus of Gestalt psychology is the process of perceptual organization.*

b. Behavioural

c. Physiological

d. Psychodynamic

Answer: a
Diff: 2

Type: MC
Page Reference: 81

Topic: Factual

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

177) *Gestalt* is a German word meaning

a. "ground."

b. "separate element."

c. "form or pattern."

Correct: *Though without a precise, direct translation, the word gestalt refers to a complete form or pattern that we perceive.*

d. "figure."

Answer: c
Diff: 1

Type: MC
Page Reference: 81

Topic: Factual

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

178) The relationship between objects and the background from which they seem to stand out is called

a. dark adaptation.

b. figure-ground.

Correct: *The degree to which an object or stimulus is distinct from the background against which it is seen or heard represents the figure-ground relationship.*

c. law of closure.

d. light-dark.

Answer: b
Diff: 1

Type: MC
Page Reference: 82

Topic: Conceptual

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

179) All of the following statements are true of the figure-ground relationship, ***except***

a. "Many psychologists believe that it is innate."

b. "It is not limited to vision."

c. "It is the first ability to appear in patients blind from birth whose sight has been restored."

d. "It is culturally determined."

Correct: *If, as is believed by many psychologists, the figure-ground relationship is innate, it cannot be culturally determined.*

Answer: d
Diff: 2

Type: MC
Page Reference: 82

Topic: Conceptual

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

180) Camouflage blurs the distinction between

a. continuation and closure.

b. sensation and perception.

c. proximity and similarity.

d. figure and ground.

Correct: *Camouflage allows an object to blend in with its environment, masking the separation between figure and ground.*

Answer: d
Diff: 2

Type: MC
Page Reference: 82

Topic: Conceptual

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

181) The tendency to group visual, auditory or other stimuli that share common characteristics or qualities is called

a. proximity.

b. continuity.

c. similarity.

Correct: *The human tendency to group like stimuli illustrates the Gestalt principle of similarity.*

d. closure.

Answer: c
Diff: 1

Type: MC
Page Reference: 82

Topic: Conceptual

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

182) The tendency to group objects that are close together in time or space is known as the principle of grouping called

a. closure.

b. similarity.

c. proximity.

Correct: *The human tendency to group objects that are physically close to each other as "belonging together" illustrates the Gestalt principle of proximity.*

d. continuity.

Answer: c
Diff: 1

Type: MC
Page Reference: 82

Topic: Conceptual

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

183) The tendency to perceive figures or objects as belonging together if they appear to form a pattern is called

a. closure.

b. proximity.

c. similarity.

d. continuity.

Correct: *The human tendency to group stimuli together in the form of a visible or auditory pattern illustrates the Gestalt principle of continuity.*

Answer: d
Diff: 1

Type: MC
Page Reference: 82

Topic: Conceptual

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

184) The tendency to complete figures with gaps in them is called

a. closure.

Correct: *The human tendency to complete stimuli that appear to be missing elements, or have gaps illustrates the Gestalt principle of closure.*

b. continuity.

c. similarity.

d. proximity.

Answer: a
Diff: 1

Type: MC
Page Reference: 82

Topic: Conceptual

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

185) A guerrilla fighter who dresses in dark splotchy greens while hiding in terrain of the same colour is trying to make it harder for the enemy to perceive

a. perceptual constancies.

b. closure.

c. good continuation.

d. figure-ground relationships.

Correct: *Camouflage allows an object to blend in with its environment, masking the separation between figure and ground.*

Answer: d
Diff: 2

Type: MC
Page Reference: 82

Topic: Applied

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

186) Birds are less likely to eat brown-coloured moths than tan-coloured moths sitting on the trunk of a brown tree trunk because of the

a. principle of simplicity.

b. principle of law of similarity.

c. figure-ground relationship.

Correct: *Camouflage allows an object to blend in with its environment, masking the separation between figure and ground. Birds are less likely to eat moths that blend in with their immediate surroundings, based on this principle.*

d. principle of continuity.

Answer: c
Diff: 2

Type: MC
Page Reference: 82

Topic: Applied

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

187) Armand was shopping in the produce aisle and saw the lovely groupings of tomatoes, lettuce, celery, carrots and kale. The principle of grouping that most affected Armand was that of

a. similarity.

Correct: *The human tendency to group like stimuli illustrates the Gestalt principle of similarity.*

b. proximity.

c. closure.

d. simplicity.

Answer: a
Diff: 3

Type: MC
Page Reference: 82

Topic: Applied

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

188) The Gestalt psychologists suggested that each of the following principles are important for organizing perception, except

a. similarity.

b. proximity.

c. closure.

d. simplicity.

Correct: *Gestalt principles of grouping include similarity, proximity and closure. There is no such thing as the Gestalt grouping principle of simplicity.*

Answer: d
Diff: 2

Type: MC
Page Reference: 82

Topic: Factual

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

189) Afzal pulled into a parking spot and turned off the motor, interrupting a song on the radio a few notes from the end. Afzal found himself whistling the rest of the song. His behaviour might best be understood in terms of the Gestalt principle of

a. closure.

Correct: *The completion of a song in one's head after listening to the majority of it, demonstrates an auditory version of the Gestalt principle of closure.*

b. proximity.

c. simplicity.

d. similarity.

Answer: a
Diff: 2

Type: MC
Page Reference: 82

Topic: Applied

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

190) The tendency to perceive objects as maintaining the same _____ despite differences in distance, viewing angle and lighting is called perceptual constancy.

a. motion, proximity and colour.

b. similarity, continuity and depth.

c. size, shape and brightness.

Correct: *Perceptual constancy is the ability to discern that objects do not change in size, shape and brightness, simply by virtue of visual changes that occur due to distance, viewing angle or lighting.*

d. organization, fluency and width.

Answer: c
Diff: 2

Type: MC
Page Reference: 82

Topic: Factual

Objective: 3.19 Identify the four types of constancies.

191) Size constancy is defined as the ability of the perceptual system to be influenced more by the actual size of objects than by

a. the size of the retinal image of the object.

Correct: *The further an object is in the distance, the smaller its image is on our retina. The human brain recognizes that despite the shrinking retinal image, the object retains its actual size.*

b. the size of the projection in the cortex.

c. the context in which the object appears.

d. the retinal disparity of the object.

Answer: a
Diff: 2

Type: MC
Page Reference: 82

Topic: Conceptual

Objective: 3.19 Identify the four types of constancies.

192) The variables that determine a person's ability to maintain size constancy do ***not*** include

a. the size of the retinal image of the object.

Correct: *The further an object is in the distance, the smaller its image is on our retina. The human brain recognizes that despite the shrinking retinal image, the object retains its actual size.*

b. the distance between the object and the person.

c. previous experience with the true size of the object.

d. the presence of surrounding objects.

Answer: a
Diff: 2

Type: MC
Page Reference: 82

Topic: Conceptual

Objective: 3.19 Identify the four types of constancies.

193) Little Marisa watches from the car as her parents drive away from her grandfather's house. Because of _____, Marisa knows her grandfather's house remains the same size, even though the image gets smaller as they drive farther away.

a. the Müller-Lyer illusion

b. the law of good continuation

c. size constancy

Correct: *The further an object is in the distance, the smaller its image is on our retina. The human brain recognizes that despite the shrinking retinal image, the object retains its actual size.*

d. the law of proximity

Answer: c
Diff: 2

Type: MC
Page Reference: 82

Topic: Applied

Objective: 3.19 Identify the four types of constancies.

194) The fact that you perceive the shape of a book as a book whether it is flat on a table, standing on its edge or held open is an example of

a. shape constancy.

Correct: *Despite changes in our viewing angle, humans recognize that an object does not change shape, due to the principle of shape constancy.*

b. good continuation.

c. size constancy.

d. size-distance invariance.

Answer: a
Diff: 2

Type: MC
Page Reference: 83

Topic: Applied

Objective: 3.19 Identify the four types of constancies.

195) You perceive dimes as round even though the typical retinal image is elliptical, because of

a. size constancy.

b. invariance.

c. shape constancy.

Correct: *Despite changes in our viewing angle and the related retinal image changes, humans recognize that an object does not change shape due to the principle of shape constancy.*

d. interposition.

Answer: c
Diff: 2

Type: MC
Page Reference: 83

Topic: Applied

Objective: 3.19 Identify the four types of constancies.

196) Which of the perceptual constancies cause us to perceive objects as being different from the retinal image they project?

a. Brightness and size constancy

b. Shape constancy and size constancy

Correct: *Despite changes in our viewing angle, humans recognize that an object does not change shape due to the principle of shape constancy. The same is true of the size of objects as they become more distant, and the associated smaller retinal image. The latter is attributed to size constancy.*

c. Colour constancy and shape constancy

d. Colour constancy and size constancy

Answer: b
Diff: 2

Type: MC
Page Reference: 83

Topic: Conceptual

Objective: 3.19 Identify the four types of constancies.

197) We must compare an object to other objects viewed at the same time in order to maintain

a. brightness constancy.

Correct: *The relative brightness of objects in our environment allows us to verify brightness constancy.*

b. shape constancy.

c. size constancy.

d. closure.

Answer: a
Diff: 3

Type: MC
Page Reference: 83

Topic: Factual

Objective: 3.19 Identify the four types of constancies.

198) When colours stay the same in sunlight or shadows, we call this

a. colour constancy.

Correct: *Our perception of the colour of familiar objects stays consistent, despite changes in lighting conditions, due to colour constancy.*

b. an illusion.

c. consistent colour coding.

d. the night-and-day effect.

Answer: a
Diff: 2

Type: MC
Page Reference: 83

Topic: Conceptual

Objective: 3.19 Identify the four types of constancies.

199) Our ability to see three dimensions and to estimate distance is called

a. binocular perception.

b. visual accommodation.

c. depth perception.

Correct: *Two elements that constitute depth perception include the ability to identify the three dimensions of an object, and the ability to estimate the distance of an object.*

d. visual acuity.

Answer: c
Diff: 2

Type: MC
Page Reference: 84

Topic: Factual

Objective: 3.20 Define binocular depth cues.

200) Convergence and binocular disparity are the two most important _____ cues to depth or distance.

a. monocular

b. binocular

Correct: *The two main binocular depth cues are binocular disparity and convergence. They are contingent on the existence of separate and distinct visual input from each eye.*

c. top-down

d. psychokinesis

Answer: b
Diff: 2

Type: MC
Page Reference: 84

Topic: Factual

Objective: 3.20 Define binocular depth cues.

201) Tim had to wear a patch over one eye for two weeks. Which of the following depth cues was he not able to use during that time?

a. Relative size

b. Interposition

c. Motion parallax

d. Binocular disparity

Correct: *The two main binocular depth cues are binocular disparity and convergence. They are contingent on the existence of separate and distinct visual input from each eye.*

Answer: d

Diff: 2

Type: MC
Page Reference: 84

Topic: Applied

Objective: 3.20 Define binocular depth cues.

202) Which of the following statements would be true of people who have lost the sight in one eye?

a. They could use binocular disparity as a depth cue.

b. They could not perceive in three dimensions.

c. They could use convergence as a depth cue.

d. They could use monocular depth cues.

Correct: *Depth perception, though diminished, is still possible with one eye, through the use of monocular depth cues.*

Answer: d
Diff: 2

Type: MC
Page Reference: 84

Topic: Factual

Objective: 3.20 Define binocular depth cues.

203) The muscles that control the movement of the eyeballs provide the depth cue called

a. linear perspective.

b. convergence.

Correct: *It is believed that the muscles that control the eyes and allow them to converge on an object at close range are also responsible for conveying information to the brain that aids in depth perception.*

c. binocular disparity.

d. accommodation.

Answer: b
Diff: 3

Type: MC
Page Reference: 84

Topic: Factual

Objective: 3.20 Define binocular depth cues.

204) Monocular depth cues include all of the following **except**

a. linear perspective.

b. binocular disparity.

Correct: *Binocular disparity involves both eyes and, as such, is clearly not one of the monocular depth cues.*

c. relative size.

d. interposition.

Answer: b
Diff: 2

Type: MC
Page Reference: 84

Topic: Conceptual

Objective: 3.20 Define binocular depth cues.

205) You see two of the same type of bus down the street. Even though one bus looks larger than the other, you assume that they are the same size and that the larger appearing bus is closer to you. This assumption is based on your knowledge of

a. relative size.

Correct: *The monocular depth cue referred to as relative size informs us that smaller-looking objects are further away than larger-looking objects that are otherwise the same type of object.*

b. interposition.

c. convergence.

d. binocular disparity.

Answer: a
Diff: 2

Type: MC
Page Reference: 84

Topic: Applied

Objective: 3.21 Identify and give an example of the seven monocular depth cues.

206) If one object partially obscures another object in a painting, the artist has used _____ as a cue to the relative distance of the objects from the viewer.

a. interposition

Correct: *The monocular depth cue known as interposition allows the brain to process objects that partially obscure other objects as closer to us than those that are partially blocked from view.*

b. relative size

c. linear perspective

d. convergence

Answer: a
Diff: 2

Type: MC
Page Reference: 84

Topic: Applied

Objective: 3.21 Identify and give an example of the seven monocular depth cues.

207) Looking out over the ploughed Iowa cornfield, you see that the rows near to you have great detail of pieces of dark soil but rows far from you look more uniform in colour and consistency. This is an example of the depth cue of

a. interposition.

b. linear perspective.

c. texture gradient.

Correct: *When the monocular cue of texture gradient is applied, the result is that objects in close range are seen in more detail and seem to have more shading than similar objects at a greater distance. The latter appear more uniform in colour and texture, with less visible detail.*

d. retinal disparity.

Answer: c
Diff: 3

Type: MC
Page Reference: 84

Topic: Applied

Objective: 3.21 Identify and give an example of the seven monocular depth cues.

208) One building partly blocking another is an example of

a. linear perspective.

b. relative size.

c. interposition.

Correct: *The monocular depth cue known as interposition allows the brain to process objects that partially obscure other objects as closer to us than those that are partially blocked from view.*

d. motion parallax.

Answer: c
Diff: 2

Type: MC
Page Reference: 84

Topic: Conceptual

Objective: 3.21 Identify and give an example of the seven monocular depth cues.

209) Railroad tracks converging in the distance provide an example of

a. interposition.

b. linear perspective.

Correct: *The monocular depth cue of linear perspective explains how two parallel lines, such as are seen in railroad tracks, appear to approach each other as they recede from view.*

c. motion parallax.

d. relative size.

Answer: b
Diff: 2

Type: MC
Page Reference: 84

Topic: Conceptual

Objective: 3.21 Identify and give an example of the seven monocular depth cues.

210) When moving in a vehicle, close objects seem to move in the opposite direction and far objects seem to move in the same direction. This phenomenon is called

a. motion parallax.

Correct: *The monocular depth cue of motion parallax explains why some objects outside of a moving vehicle in which we are riding appear to be moving in the opposite direction. This theory also explains that objects at great distance, such as the moon or stars appear to be moving in the same direction as a vehicle in which we are riding.*

b. the phi phenomenon.

c. interposition.

d. stroboscopic motion.

Answer: a
Diff: 3

Type: MC
Page Reference: 84

Topic: Conceptual

Objective: 3.21 Identify and give an example of the seven monocular depth cues.

211) In order to create the perception of depth painters sometimes use all of the following ***except***

a. Convergence

Correct: *Convergence requires three dimensional stimuli. A painting is two dimensional.*

b. Linear perspective

c. Texture gradient

d. Atmospheric perspecitve

Answer: a
Diff: 2

Type: MC
Page Reference: 84

Topic: Factual

Objective: 3.21 Identify and give an example of the seven monocular depth cues.

212) An illusion is

a. an impossible figure.

b. a figure-ground reversal.

c. an imaginary sensation.

d. a misperception of a real stimulus.

Correct: *By definition, an illusion is a misperception or a false perception of actual stimuli in our environment.*

Answer: d
Diff: 2

Type: MC

Page Reference: 87

Topic: Factual

Objective: 3.22 Define motion perception.

213) Compared to people in modern societies, people in tribal societies who live in round dwellings and have little experience with interior and exterior corners are less likely to be fooled by

a. the phi phenomenon.

b. linear perspective.

c. the Müller-Lyer illusion.

Correct: *The Muller-Lyer illusion involves the length of vertical lines as represented by corners in a particular structure. Members of cultures that do not rely on structures with corners have been shown not to be taken in by the Muller Lyer illusion.*

d. the Ponzo illusion.

Answer: c
Diff: 3

Type: MC
Page Reference: 87

Topic: Factual

Objective: 3.22 Define motion perception.

214) For instance, if you stare at a single unmoving light in a dark room for a few seconds, the light will appear to begin moving, a phenomenon called _____ .

a. psi phenomenon.

b. The Müller-Lyer illusion.

c. the autokinetic illusion.

Correct: *Your eyes are always moving so they create their own relative motion in this situation.*

d. the saccade illusion.

Answer: c
Diff: 3

Type: MC
Page Reference: 87

Topic: Factual

Objective: 3.22 Define motion perception.

215) The information processing technique used in recognizing patterns that begins with the individual components of a stimulus is known as

a. top-down processing.

b. signal detection.

c. bottom-up processing.

Correct: *When one dissects a stimulus component by component to determine the best interpretation for that stimulus, one is using bottom-up processing.*

d. feature detection.

Answer: c
Diff: 2

Type: MC
Page Reference: 89

Topic: Conceptual

Objective: 3.23 Compare and contrast bottom-up and top-down processing.

216) The information processing technique used in recognizing patterns, which utilizes past experiences and knowledge of the context of a stimulus, is known as

a. feature detection.

b. signal detection.

c. top-down processing.

Correct: *When one relies on past experience or knowledge to form conclusions about an experience or stimulus, one is using top-down processing.*

d. bottom-up processing.

Answer: c
Diff: 2

Type: MC
Page Reference: 89

Topic: Conceptual

Objective: 3.23 Compare and contrast bottom-up and top-down processing.

217) Making sense of a word with a mistyped letter by reading the context of the word utilizes

a. signal detection.

b. feature detection.

c. top-down processing.

Correct: *When one relies on past experience or knowledge to form conclusions about an experience or stimulus, one is using top-down processing, as in the case of an incorrectly spelled word.*

d. bottom-up processing.

Answer: c
Diff: 2

Type: MC
Page Reference: 89

Topic: Conceptual

Objective: 3.23 Compare and contrast bottom-up and top-down processing.

218) Making sense of a word written in faded scribble by naming each letter utilizes

a. feature detection.

b. bottom-up processing.

Correct: *When one dissects a stimulus component by component to determine the best interpretation for that stimulus, one is using bottom-up processing.*

c. top-down processing.

d. signal detection.

Answer: b
Diff: 2

Type: MC
Page Reference: 89

Topic: Conceptual

Objective: 3.23 Compare and contrast bottom-up and top-down processing.

219) _____ --what you expect to perceive—determines, to a large extent, what you actually see, hear, feel, taste, and smell.

a. Persuasive perception

b. Subliminal perception

c. Perceptual set

Correct: *This is a good illustration of how cognitive processes can alter perecetion*

d. Cognitive expectation

Answer: c
Diff: 2

Type: MC
Page Reference: 89

Topic: Factual

Objective: 3.23 Compare and contrast bottom-up and top-down processing.

220) _____ is defined as the process of sorting through sensations and selecting some of them for further processing.

a. Subliminal cognition

b. Cognitive processing

c. Automatic mental processing

d. Attention

Answer: d
Diff: 2

Type: MC
Page Reference: 90

Topic: Factual

Objective: 3.23 Compare and contrast bottom-up and top-down processing.

221) With regard to driving and talking on a cell phone research suggests all of the following **except**

a. Drivers who are also using a telephone drive with extra caution to compensate for their perceived skill reduction.

Correct: *Drivers rarely observe their own driving flaws.*

b. Drivers slow down when talking on the phone.

c. Drivers have slower reaction times when engaged in driving and phoning.

d. Drives talking on cell phones sometimes stop at green lights.

Answer: a
Diff: 2

Type: MC
Page Reference: 91

Topic: Factual

Objective: 3.23 Compare and contrast bottom-up and top-down processing.

222) is the phenomenon in which we shift our focus from one object to another and, in the process, fail to notice changes in objects to which we are not directly paying attention.

a. Subliminal distraction

b. Attentional blindness

c. Inattentional blindness

Correct: *Simon's research has shown this phenomenon in many situations.*

d. Distractional blindness

Answer: c
Diff: 2

Type: MC
Page Reference: 90

Topic: Factual

Objective: 3.23 Compare and contrast bottom-up and top-down processing.

223) The process through which the senses detect sensory information and transmit it to the brain is called sensation.

a. True
Correct: *Correct*

b. False
Incorrect: *Incorrect*

Answer: a
Diff: 1

Type: TF
Page Reference: 62

Topic: Factual

Objective: 3.1 Identify and understand the difference between sensation and perception.

224) Sensation is the process by which sensory information is actively organized.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b

Diff: 1

Type: TF
Page Reference: 62

Topic: Factual

Objective: 3.1 Identify and understand the difference between sensation and perception.

225) The point at which you can barely sense a stimulus 50 percent of the time is called the difference threshold.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 1

Type: TF
Page Reference: 62

Topic: Factual

Objective: 3.2 Define and explain each of the following measures of the senses: absolute threshold, difference threshold, and signal detection theory.

226) Weber's Law suggests that the just-noticeable difference is a ratio rather than a fixed amount of change in a stimulus.

a. True
Correct: *Correct*

b. False
Incorrect: *Incorrect*

Answer: a
Diff: 1

Type: TF
Page Reference: 62

Topic: Factual

Objective: 3.2 Define and explain each of the following measures of the senses: absolute threshold, difference threshold, and signal detection theory.

227) The difference threshold is the same for all individuals.

a. True

Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 1

Type: TF
Page Reference: 62

Topic: Conceptual

Objective: 3.2 Define and explain each of the following measures of the senses: absolute threshold, difference threshold, and signal detection theory.

228) The thresholds for sensory stimuli are the same for a given individual at all times.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 1

Type: TF
Page Reference: 62

Topic: Applied

Objective: 3.2 Define and explain each of the following measures of the senses: absolute threshold, difference threshold, and signal detection theory.

229) Sensory adaptation is likely to occur in the presence of the odour of a skunk.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 2

Type: TF
Page Reference: 63

Topic: Applied

Objective: 3.3 Understand how sensory stimuli come to be experienced as sensations.

230) Visual and auditory information is transduced while other senses are processed directly in the brain.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 2

Type: TF
Page Reference: 63

Topic: Applied

Objective: 3.3 Understand how sensory stimuli come to be experienced as sensations.

231) Nearsightedness (hyperopia) occurs when the lens focuses images of distant objects in front of, rather than on, the retina.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 2

Type: TF
Page Reference: 66

Topic: Applied

Objective: 3.4 Identify and describe the major structures of the eye.

232) The process by which a sensory stimulus is translated into a neural impulse is called sensory reception.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 1

Type: TF

Page Reference: 63

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

233) The receptor cells in the retina that enable us to see in dim light are the cones; the cells that enable us to see colour and sharp images are the rods.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 1

Type: TF
Page Reference: 66

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

234) From the optic chiasm the optic nerve conveys visual information to the thalamus.

a. True
Correct: *Correct*

b. False
Incorrect: *incorrect*

Answer: a
Diff: 1

Type: TF
Page Reference: 67

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

235) Hubel and Wiesel determined that each neuron process visual information of only one type. A line at a specific angle for example.

a. True
Correct: *Correct*

b. False
Incorrect: *incorrect*

Answer: a
Diff: 1

Type: TF
Page Reference: 67

Topic: Factual

Objective: 3.5 Compare the function of rods and cones.

236) Hue, saturation, and wave length combine to create the visual image of colour we perceive.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 1

Type: TF
Page Reference: 68

Topic: Factual

Objective: 3.6 Define and compare the two theories of colour vision.

237) Research by Hubel and Wiesel suggests that neurons known as feature detectors are programmed a birth to respond to specific visual information.

a. True
Correct: *Correct*

b. False
Incorrect: *Incorrect*

Answer: a
Diff: 1

Type: TF
Page Reference: 68

Topic: Factual

Objective: 3.6 Define and compare the two theories of colour vision.

238) Most people who are colour-blind see no colours except black, white and shades of gray.

a. True

Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 2

Type: TF
Page Reference: 70

Objective: 3.8 Define colour blindness.

239) Pitch is measured in hertz; loudness in decibels.

a. True
Correct: *Correct*

b. False
Incorrect: *Incorrect*

Answer: a
Diff: 1

Type: TF
Page Reference: 71

Topic: Factual

Objective: 3.9 Identify and define the major structures used for hearing.

240) The sound patterns that occur above the tone of a musical instrument and give the instrument its timbre are called overtones.

a. True
Correct: *Correct*

b. False
Incorrect: *Incorrect*

Answer: a
Diff: 2

Type: TF
Page Reference: 72

Topic: Factual

Objective: 3.9 Identify and define the major structures used for hearing.

241) Hearing aids are most often used if there is damage is to the auditory nerve that connects the cochlea to the brain.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Incorrect*

Answer: b
Diff: 2

Type: TF
Page Reference: 74

Topic: Factual

Objective: 3.10 Compare and contrast the two theories of hearing.

242) The technical name for the sensation of smell is called gustation.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 1

Type: TF
Page Reference: 75-76

Topic: Factual

Objective: 3.11 Define olfaction and gustation

243) Our ability to identify foods with similar texture is most influenced by our sense of taste.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 1

Type: TF
Page Reference: 76

Topic: Factual

Objective: 3.11 Define olfaction and gustation

244) The olfactory neurons are similar to other sensory receptors.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 2

Type: TF
Page Reference: 75

Objective: 3.11 Define olfaction and gustation.

245) Because David is quite sensitive to certain artificial sweeteners, he would probably be classified as a supertaster.

a. True
Correct: *Correct*

b. False
Incorrect: *Incorrect*

Answer: a
Diff: 2

Type: TF
Page Reference: 76

Topic: Applied

Objective: 3.11 Define olfaction and gustation.

246) Taste receptors have a very short life span and are continually being replaced.

a. True
Correct: *Correct*

b. False
Incorrect: *Incorrect*

Answer: a
Diff: 1

Type: TF

Page Reference: 76

Topic: Factual

Objective: 3.11 Define olfaction and gustation.

247) Researchers have compared non-tasters, medium tasters and supertasters by actually counting the number of taste buds on the tongues of subjects.

a. True
Correct: *Correct*

b. False
Incorrect: *Incorrect*

Answer: a
Diff: 1

Type: TF
Page Reference: 76

Topic: Conceptual

Objective: 3.12 Identify the structures and the role of the structures used for smell and taste.

248) Supertasters have the same number of taste buds as medium and non-tasters.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 1

Type: TF
Page Reference: 76

Topic: Conceptual

Objective: 3.12 Identify the structures and the role of the structures used for smell and taste.

249) The two-point threshold measures how far apart two points must be before we feel them as separate touches.

a. True
Correct: *Correct*

b. False

Incorrect: *Incorrect*

Answer: a
Diff: 1

Type: TF
Page Reference: 77

Topic: Factual

Objective: 3.13 Explain how the skin provides sensory information.

250) Each skin receptor responds only to touch, pressure, warmth or cold.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 1

Type: TF
Page Reference: 77

Topic: Factual

Objective: 3.13 Explain how the skin provides sensory information.

251) The two-point threshold varies for different parts of the body.

a. True
Correct: *Correct*

b. False
Incorrect: *Incorrect*

Answer: a
Diff: 1

Type: TF
Page Reference: 77

Topic: Conceptual

Objective: 3.13 Explain how the skin provides sensory information.

252) Gate-control theory suggests that you can control your experience of pain through cognition.

a. True

Correct: *Correct*

b. False
Incorrect: *Incorrect*

Answer: a
Diff: 1

Type: TF
Page Reference: 77

Topic: Conceptual

Objective: 3.14 Explain the gate-control theory.

253) People would be better off if they could not feel pain.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 2

Type: TF
Page Reference: 78

Topic: Conceptual

Objective: 3.15 Explain the role of endorphins.

254) The role of pain is to serve as a warning and protection mechanism.

a. True
Correct: *Correct*

b. False
Incorrect: *Incorrect*

Answer: a
Diff: 1

Type: TF
Page Reference: 78

Topic: Conceptual

Objective: 3.15 Explain the role of endorphins.

255) The ancient Chinese technique of acupuncture appears to work because it stimulates the release of endorphins.

a. True
Correct: *Correct*

b. False
Incorrect: *Incorrect*

Answer: a
Diff: 1

Type: TF
Page Reference: 78

Topic: Conceptual

Objective: 3.15 Explain the role of endorphins.

256) Our vestibular sense detects movement and provides information about where we are in space.

a. True
b. False

Answer: a
Diff: 1

Type: TF
Page Reference: 81

Topic: Factual

Objective: 3.17 Describe the vestibular sense.

257) The Gestalt principle of closure refers to our tendency to complete figures with gaps in them.

a. True
Correct: *Correct*

b. False
Incorrect: *Incorrect*

Answer: a
Diff: 2

Type: TF
Page Reference: 82

Topic: Applied

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

258) As we view people and objects from different angles and distances and under different lighting conditions, we tend to see them as maintaining the same size, shape, brightness, and colour. We call this phenomenon Gestalt constancy.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 2

Type: TF
Page Reference: 82

Topic: Applied

Objective: 3.19 Identify the four types of constancies.

259) Convergence is associated with monocular depth cues.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 1

Type: TF
Page Reference: 84

Topic: Applied

Objective: 3.20 Define binocular depth cues.

260) The textbook calls illusions a form of hallucination

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 1

Type: TF
Page Reference: 87

Topic: Applied

Objective: 3.20 Define binocular depth cues.

261) Illusions are a phenomenon of brain structure and occur at approximately the same rate in all cultures.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 1

Type: TF
Page Reference: 88

Topic: Applied

Objective: 3.20 Define binocular depth cues.

262) Apparent motion is the term used for perceptions of motion that seem to be psychologically constructed without the presence of external stimuli.

a. True
Incorrect: *Incorrect*

b. False
Correct: *Correct*

Answer: b
Diff: 1

Type: TF
Page Reference: 85

Topic: Applied

Objective: 3.22 Define motion perception.

263) what you expect to perceive—determines, to a large extent, what you actually see, hear, feel, taste, and smell.

a. True
Correct: *Correct*

b. False
Incorrect: *Incorrect*

Answer: a
Diff: 1

Type: TF
Page Reference: 89

Topic: Conceptual

Objective: 3.23 Compare and contrast bottom-up and top-down processing.

264) What is the relationship between sensation and perception?

Answer:
GUIDELINES: Sensation is the process by which the senses detect visual, auditory and other sensory stimuli and transmit them to the brain. Perception is the process by which sensory information is actively organized and interpreted by the brain. Sensation provides the raw material out of which perception produces experience.

Diff: 2

Type: ES
Page Reference: 62

Objective: 3.1 Identify and understand the difference between sensation and perception.

265) What is the role played by absolute threshold and the difference threshold in perception?

Answer:
GUIDELINES: The absolute threshold of a sense makes the difference between not being able to perceive a stimulus and being just barely able to perceive it. The difference threshold is a measure of the smallest increase or decrease in a physical stimulus that is required to produce the just noticeable difference, to be able to discern a change.

Diff: 1

Type: ES
Page Reference: 62

Objective: 3.2 Define and explain each of the following measures of the senses: absolute threshold, difference threshold, and signal detection theory.

266) Compare and contrast the processes of sensation and perception as they apply to vision ***or*** hearing.

Answer:

GUIDELINES: The discussion of sensation should include how the senses detect sensory stimuli, how the sensory receptors transduce sensory stimuli into neural impulses, and how these impulses are transmitted to the brain. The definition of perception should emphasize the role of the brain in organizing and interpreting the sensations.

Diff: 2

Type: ES
Page Reference: 63

Objective: 3.3 Understand how sensory stimuli come to be experienced as sensation.

267) How are sensory stimuli from the environment experienced as sensations?

Answer:
GUIDELINES: The body's sense organs are equipped with specialized cells called sensory receptors which detect and respond to one type of stimuli. Through a process known as transduction, the receptors change the sensory stimulation into neural impulses. The neural impulses are then transmitted to their own special location in the brain. We experience a sensation only when the appropriate part of the brain is stimulated.

Diff: 2

Type: ES
Page Reference: 63

Objective: 3.3 Understand how sensory stimuli come to be experienced as sensation.

268) What is the visible spectrum?

Answer:
GUIDELINES: Our eyes can respond only to a very narrow band of electromagnetic waves, a band called the visible spectrum. The length of a light wave determines the colour we perceive. What we see is confined to the visible spectrum the wavelengths of electromagnetic radiation to which our receptors are sensitive but how we see depends on the many parts of the eye and brain that bring us the world of sight.

Diff: 1

Type: ES
Page Reference: 65

Objective: 3.4 Identify and describe the major structures of the eye.

269) What are the lens and the retina?

Answer:
GUIDELINES: The lens is the transparent structure behind the iris that changes in shape as it focuses images on the retina. The retina is the tissue at the back of the eye that contains the rods and the cones onto which the image is projected.

Diff: 1

Type: ES
Page Reference: 66

Objective: 3.4 Identify and describe the major structures of the eye.

270) What is accommodation for our vision?

Answer:
GUIDELINES: Accommodation is the changing in shape of the lens as it focuses objects on the retina: it becomes flatter for far objects and more spherical for near objects in order to focus the light on the retina.

Diff: 1

Type: ES
Page Reference: 65

Objective: 3.4 Identify and describe the major structures of the eye.

271) Compare and contrast the functioning of rods and cones in visual sensation.

Answer:
GUIDELINES: At the back of the retina is a layer of light-sensitive receptor cells—the rods and the cones. Named for their shapes, the rods look like slender cylinders, and the cones are shorter and more rounded. The cones are the receptor cells that enable us to see colour and fine detail in adequate light, but they do not function in very dim light. By contrast, the rods respond to black and white; while they encode all other visible wavelengths, they do so in shades of grey instead of in colour. The rods are extremely sensitive, allowing the eye to see in very dim light and therefore providing for night vision. Changes in a chemical called rhodospin, found in the rods, enable us to adapt to the darkness of a bedroom or to the brightness of a playground on a sunny day.

Diff: 3

Type: ES
Page Reference: 66

Objective: 3.5 Compare the function of rods and cones.

272) What roles do the rods and cones play in vision?

Answer:
GUIDELINES: at the back of the retina is a layer of light-sensitive receptor cells—the rods and the cones. The rods are light-sensitive receptors that provide vision in dim light in black, white, and shades of grey. The cones enable us to see colour and fine detail in adequate light, but they do not function in dim light.

Diff: 1

Type: ES
Page Reference: 66

Objective: 3.5 Compare the function of rods and cones.

273) Describe the nature and function of the fovea.

Answer:
GUIDELINES: The fovea is located at the centre of the retina. When you look directly at an object, the image of the object is focused on the centre of your fovea. The clearest point of your vision, the fovea is the part of the retina that you use for fine detail work. The fovea contains no rods but has some thousands of cones tightly packed together. The centre of the fovea contains the most densely packed cones, and their density decreases sharply close to the fovea's centre and levels off more gradually to the periphery of the retina. It is the density of cones that determines visual acuity.

Diff: 2

Type: ES
Page Reference: 66

Objective: 3.5 Compare the function of rods and cones.

274) Describe the activity of visual processing in the primary visual cortex that is suggested by the research of Hubel and Wiesel.

Answer:
GUIDELINES: Hubel and Wiesel were able to read the activity of individual neurons in the primary visual cortex of cats. The discovered neurons that were responsive to one, and only one, specific stimuli. For example a neuron that fires only when presented with information about lines a given angle. They called these neurons feature detectors and suggested that they were coded or programmed for this activity before birth. So their picture of the activity of the primary visual cortex is one that involves many different sets of neurons responding or firing to many specific types of stimuli.

Diff: 2

Type: ES
Page Reference: 67-68

Objective: 3.6 Define and compare the two theories of colour vision.

275) What are the three dimensions that combine to provide the colours we experience?

Answer:
GUIDELINES: The three dimensions of colour that we experience are the hue, saturation and brightness. Hue is the chief dimension and refers to the actual colour we view (red, green and so on). Saturation is the degree to which light waves producing a colour are of the same wavelength or the purity of colour. Brightness refers to the intensity of the light energy we perceive, and corresponds to the amplitude of the light wave.

Diff: 2

Type: ES
Page Reference: 68

Objective: 3.6 Define and compare the two theories of colour vision.

276) What two major theories attempt to explain colour vision?

Answer:
GUIDELINES: Trichromatic theory is a theory of colour vision suggesting that there are three types of cones, which are maximally sensitive to red, green, or blue, and that varying levels of activity in these receptors can produce all of the colours. The opponent-process theory that certain cells in the visual system increase their firing rate to signal one colour and decrease their firing rate to signal the opposing colour.

Diff: 2

Type: ES
Page Reference: 69

Objective: 3.6 Define and compare the two theories of colour vision.

277) Describe the contributions of the two competing theories of colour vision.

Answer:
GUIDELINES: The student should mention the trichromatic theory is consistent with the observation that three types of cones are sensitive to three different colours blue, green, and red. The opponent process theory is most consistent with observations that three classes of ganglioin cells respond to light by increasing or decreasing their rate of firing

when different colours are present. The red/green cells increase their firing rate when red is present and decrease it when green is present. The yellow/blue cells increase to yellow and decrease to blue. Another type of cell increases to white light and decreases to the absence of light.

Diff: 3

Type: ES
Page Reference: 69

Objective: 3.7 Explain the relative contributions of the two theories of colour vision.

278) What is the difference in the frequency and amplitude of a sound?

Answer:
GUIDELINES: The frequency is measured in the unit hertz, the number of sound waves or cycles per second determining the pitch of the sound. The amplitude is measured in decibels, the magnitude or intensity of a sound wave determining the loudness of the sound. In vision, the magnitude or intensity of a light wave affects the brightness of a stimulus.

Diff: 2

Type: ES
Page Reference: 71

Objective: 3.9 Identify and define the major structures used for hearing.

279) How is a sound detected by the various parts of the ear?

Answer:
GUIDELINES: Sound waves pass through the auditory canal to the eardrum, causing it to vibrate and set in motion the ossicles in the middle ear. When the stirrup pushes against the oval window, it sets up vibrations in the inner ear. This moves the fluid in the cochlea back and forth and sets the hair cells in motion, causing a message to be sent to the brain via the auditory nerve.

Diff: 1

Type: ES
Page Reference: 73

Objective: 3.9 Identify and define the major structures used for hearing.

280) Discuss why stereo headsets can be dangerous.

Answer:
GUIDELINES: Prolonged exposure to loud noise can damage hair cell receptors, which can lead to hearing loss or can leave a person with tinnitus, or ringing in the ears. Sounds stronger than 90 decibels can cause damage and this damage is permanent.

Diff: 1

Type: ES
Page Reference: 74

Objective: 3.9 Identify and define the major structures used for hearing.

281) Describe the two major theories that attempt to explain hearing?

Answer:
GUIDELINES: Place theory is the theory that sounds of different frequencies or pitch cause maximum activation of hair cells at certain locations along the basilar membrane. Frequency theory is the theory that hair cell receptors vibrate the same number of times as the sounds that reach them, thereby accounting for the way variations in pitch are transmitted to the brain.

Diff: 2

Type: ES
Page Reference: 73-74

Objective: 3.10 Compare and contrast the two theories of hearing.

282) What are some major causes of hearing loss?

Answer:
GUIDELINES: Conductive hearing loss, or conduction deafness, is usually caused by disease or injury to the eardrum or the bones of the middle ear, with the result that sound waves cannot be conducted to the cochlea. People over the age of 60 suffer from sensor neural hearing loss, which involves damage either to the cochlea or to the auditory nerve.

Diff: 2

Type: ES
Page Reference: 74

Objective: 3.10 Compare and contrast the two theories of hearing.

283) How does the olfactory sense work and how is it unique from other senses?

Answer:

GUIDELINES: Odour molecules travel up the nostrils to the olfactory epithelium which contains the receptor cells for smell. Olfactory receptors are special neurons with axons that form the olfactory nerve. The olfactory nerve relays smell messages to the olfactory bulbs and on to other parts of the brain. The main way that olfaction is unique that axons of the olfactory receptor cells relay smell messages directly to the olfactory bulbs. From the olfactory bulbs, messages are relayed to different parts of the brain.

Diff: 3

Type: ES
Page Reference: 75-77

Objective: 3.11 Define olfaction and gustation.

284) What are the five primary taste sensations, and how where are they located.?

Answer:
GUIDELINES: The sense of taste produces four distinct kinds of sensations—sweet, sour, salty and bitter. There is also a fifth taste called *umami* that responds to the chemical glutamate. All five taste receptors are located on all locations of the tongue, and also are found in the palate, in the mucous lining of the cheeks and lips, and in parts of the throat, including the tonsils.

Diff: 1

Type: ES
Page Reference: 76

Objective: 3.12 Identify the structures and the role of the structures used for smell and taste.

285) Explain why persons who have a cold often find food tasteless and unappealing.

Answer:
GUIDELINES: Students' answers should explain that our sense of taste gives us only five sensations: our sense of sweet, sour, salty, umami, and bitter. Our sense of smell contributes most of what we attribute to taste. Texture and temperature also contribute to the final perception and affective response that we call flavour.

Diff: 1

Type: ES
Page Reference: 76

Objective: 3.12 Identify the structures and the role of the structures use for smell and taste.

286) How does the sensation of a handshake get conveyed to our brain?

Answer:
GUIDELINES: When an object touches and depresses the skin, stimulating one or more of the several distinct types of receptors in the nerve ending. These sensitive nerve endings in the skin send the touch message through nerve connections to the spinal cord. The message travel up the spinal cord and through the brainstem and the midbrain, finally reaching the brain's somatosensory cortex in the parietal lobes..

Diff: 1

Type: ES
Page Reference: 77

Objective: 3.13 Explain how the skin provides sensory information.

287) Describe the gate-control theory of pain.

Answer:
GUIDELINES: Students should mention Melzak and Wall; the basic outline of the theory and some implications of the theory. Important points include the location of the hypothesized gate, in the spinal cord; the hypothesis that only one message at a time can pass through the gate, so rubbing an area may send competing messages through the gate and inhibit the full expression of pain; pain is carried by fast nerves, other senses by slower nerves; and that cognitive and emotional messages from the CNS to the spinal cord can alter, slow down or increase, the experience of pain.

Diff: 3

Type: ES
Page Reference: 77

Objective: 3.14 Explain the gate-control theory.

288) What is the gate-control theory of pain?

Answer:
GUIDELINES: The theory that the pain signals transmitted by slow-firing nerve fibres can be blocked at the spinal cord first, or if the brain itself inhibits the transmission of the pain messages.

Diff: 1

Type: ES
Page Reference: 78

Objective: 3.14 Explain the gate-control theory.

289) What beneficial purpose does pain serve?

Answer:
GUIDELINES: Pain motivates us to tend to injuries, to restrict activity and to seek medical help. Pain also teaches us to avoid pain-producing circumstances in the future.

Diff: 1

Type: ES
Page Reference: 78

Objective: 3.14 Explain the gate-control theory.

290) Describe the role of endorphins?

Answer:
GUIDELINES: Endorphins are chemicals, produced naturally by the pituitary gland, that reduce pain and affect mood positively. Endorphins are released when we are in pain and when we laugh, cry, or exercise. "Runner's high" is hypothesized to involve the release of endorphins and some acupuncture points appear to have their effect through the release of endorphins. Some people release endorphins to certain thoughts such as a belief that they are receiving a pain relieving medication which is, in fact, a placebo.

Diff: 2

Type: ES
Page Reference: 78-79

Objective: 3.15 Explain the role of endorphins.

291) What sense is involved in our knowing where our different body parts are in relation to one another, and how does it work?

Answer:
GUIDELINES: The kinesthetic sense provides information about the position of the body parts in relation to one another and the movement in various body parts. This information is detected by receptors in the joints, ligaments and muscles.

Diff: 1

Type: ES
Page Reference: 80

Objective: 3.16 Identify the kinds of information provided by the kinesthetic sense.

292) What is the vestibular sense, and where are its sensory receptors located?

Answer:
GUIDELINES: The vestibular sense provides information about movement and our orientation in space through sensory receptors in the semicircular canals and the vestibular sacs, which detect changes in the movement and orientation of the head.

Diff: 1

Type: ES
Page Reference: 90

Objective: 3.17 Describe the vestibular sense.

293) What are the Gestalt principles of perceptual organization?

Answer:
GUIDELINES: The Gestalt psychologists believed that when we see figures of hear sounds, we organize them according to the simplest, most basic arrangement possible, They proposed the following principles of grouping: similarity, proximity, continuity and closure.

Diff: 1

Type: ES
Page Reference: 82

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

294) Describe the Gestalt principles of perceptual organization?

Answer:
GUIDELINES: Gestalt principles of perceptual organization include the figure-ground relationship and four principles of perceptual grouping—similarity, proximity, continuity and closure. We tend to group visual, auditory, and other stimuli according to the principle of similarity. Objects that have similar characteristics are perceived as a unit. Objects that are close together in space or time are usually perceived as belonging together, because of a principle of grouping called proximity. he principle of continuity suggests that we perceive figures or objects as belonging together if they appear to form a continuous pattern. The principle of closure addresses our tendency to complete figures with gaps in them.

Diff: 3

Type: ES

Page Reference: 82

Objective: 3.18 Identify and explain the four Gestalt principles of grouping.

295) Explain size, shape, brightness, and colour constancy. Give two examples of how strange your world would appear if these perceptual constancies did not occur.

Answer:
GUIDELINES: After explaining each constancy, examples of the lack of perceptual constancy might include (1) perceiving people as shrinking and expanding as they move toward or away from us, (2) seeing objects as changing shape as our position in relation to them changes—for example, a plate would change from a circle to an ellipse.

Diff: 2

Type: ES
Page Reference: 81

Objective: 3.19 Identify the four types of constancies

296) Describe perceptual constancy?

Answer:
GUIDELINES: The tendency to perceive objects as maintaining stable properties such as size, shape and brightness, despite differences in distance, viewing angle and lighting.

Diff: 1

Type: ES
Page Reference: 82

Objective: 3.19 Identify the four types of constancies.

297) Compare and contrast monocular with binocular depth cues.

Answer:
GUIDELINES: Obviously binocular cues use information from two eyes and monocular form one. When you look at an object and it moves closer the eyes have to move, to begin to cross to stay focused on the object. The brain can register this convergence and draw information about depth from it. Retinal disparity is the brain's ability to compare the image of an object that is presented to the two retinas. It will be slightly different and there is information about depth in this disparity. There are a number of phenomenon that can provide one eye with information about depth. The student should mention at least two of the following.

Interposition. When one object partially blocks our view of another, we perceive the partially blocked object as farther away.

Linear perspective. Linear perspective is a depth cue in which parallel lines that are known to be the same distance apart appear to grow closer together or converge as they recede into the distance.

Relative size. Larger objects are perceived as being closer to us, and smaller objects as being farther away.

Texture gradient. Texture gradient is a depth cue in which near objects appear to have a sharply defined texture, while similar objects appear progressively smoother and fuzzier as they recede into the distance.

Atmospheric perspective. Atmospheric perspective, some-times called aerial perspective, is a depth cue in which objects in the distance have a bluish tint and appear more blurred than objects close at hand.

Shadow or shading. When light falls on objects, shadows are cast. We can distinguish bulges from indentions by the shadows they cast.

Motion parallax. When we ride in a moving vehicle and look out the side window, the objects we see outside appear to be moving in the opposite direction. The objects also seem to be moving at different speeds—those closest to us appear to be moving faster than objects in the distance.
Diff: 1

Type: ES
Page Reference: 84

Objective: 3.20 Define binocular depth cues.

298) What are the binocular depth cues?

Answer:
GUIDELINES: Depth cues that depend on two eyes working together; convergence and binocular disparity.

Diff: 1

Type: ES
Page Reference: 84

Objective: 3.21 Identify and give an example of the seven monocular depth cues.

299) What are seven monocular depth cues?

Answer:
GUIDELINES: Interposition, linear perspective, relative size, texture gradient, atmospheric perspective, shadow or shading and motion parallax.

Diff: 2

Type: ES
Page Reference: 84

Objective: 3.21 Identify and give an example of the seven monocular depth cues.

300) Explain four monocular depth cues artists use in their paintings. Provide an example of each, either labelled in a drawing or in a verbal description.

Answer:
GUIDELINES: Depth cues include linear perspective, shadowing, texture gradients, relative size, and interposition. Examples could be drawn as well as written out.

Diff: 2

Type: ES
Page Reference: 84

Objective: 3.21 Identify and give an example of the seven monocular depth cues.

301) Explain the Ponzo Illusion.

Answer:
GUIDELINES: Two white bars superimposed on a railway track are actually identical in length. Because A appears farther away than B, we perceive it as longer.

Diff: 2

Type: ES
Page Reference: 87-88

Objective: 3.22 Compare and contrast top-down and bottom-up processing.

302) What is bottom-up processing and top-down processing?

Answer:
GUIDELINES:

Bottom-up: Information processing in which individual components or bits of data are combined until a complete perception is formed.

Top-down processing: application of previous experience and conceptual knowledge to first recognize the whole of a perception and thus easily identify the simpler elements of that whole.

Diff: 2

Type: ES
Page Reference: 89

Objective: 3.23 Compare and contrast bottom-up and top-down processing.

303) What is inattentional blindness?

Answer:
GUIDELINES: Inattentional blindness is the phenomenon in which we shift our focus from one object to another and, in the process, fail to notice changes in objects to which we are not directly paying attention.

Diff: 2

Type: ES
Page Reference: 90

Objective: 3.22 Compare and contrast top-down and bottom-up processing.