Chapter 4 Quick Quiz

1. Which of the following most closely mimics the process of transduction?
   a. Betty mixes eggs, flour, and sugar together to make a cake.
   b. While painting, Stan combines the colors red and blue to make purple.
   c. Gas companies convert crude oil into a fuel that car engines can run on.
   d. Nike changes its logo from a "swoosh" to a "panther."
2. The process of converting an external energy or substance into neural activity is called
   a. sensation.
   b. perception.
   c. transduction.
   d. sensory adaptation.
3. Tommy is a professional basketball player and has years of experience tuning out the crowd noise as he prepares to shoot his free throws. Tommy is engaging in
   a. intense concentration.
   b. selective attention.
   c. dichotic listening.
   d. parallel processing.
4. When light enters the eye, it first passes through what structure?
   a. Corneac.
   b. Lens
   c. Pupil
   d. Sclera
5. All of the following are Gestalt principles of perception EXCEPT
   a. proximity.
   b. similarity.
   c. complexity.
   d. continuity.
6. Even though the cars at the end of the train look miniature, we know they are full-size due to
   a. binocular cues.
   b. monocular cues.
   c. perceptual constancy.
   d. perceptual illusion.
7. As we age, it becomes more difficult for us to hear _____ sounds.
   a. high-frequency
   b. moderate-frequency
   c. low- to moderate-frequency
   d. low-frequency
8. Which component of sound is likely to be most affected by upgrading your old headphones to a set of "noise-cancelling" headphones?
   a. Timbre
   b. Pitch
   c. Loudness
   d. Frequency
9. A disorder of the inner ear would be most likely to impact our
   a. equilibrium.
   b. hearing.
   c. sense of pain.
   d. sense of smell.

10. The feeling of reliving an experience that is new is known as
    a. out-of-body experience.
    b. déjà vu.
    c. hypnosis.
    d. hallucination.

Chapter 4 Quick Quiz Answers

1. **Chapter Section:** Sensation: Our Senses as Detectives
   Answer: c **Page(s):** 115 **Type:** Applied **Diff:** 3
   Rationale: Gas companies convert crude oil into a fuel that car engines can run on.
   Rationale: Transduction is the process of converting external energy into a form the brain can understand (neural activity).

2. **Chapter Section:** Sensation: Our Senses as Detectives
   Answer: c **Page(s):** 115 **Type:** Factual **Diff:** 1
   Rationale: This is a factual question.

3. **Chapter Section:** Perception: When Our Senses Meet Our Minds
   Answer: b **Page(s):** 118 **Type:** Applied **Diff:** 2
   Rationale: Selective attention refers to our ability to pay attention to one sensory channel while ignoring or minimizing others.

4. **Chapter Section:** The Eye: How We Represent the Visual Realm
   Answer: a **Page(s):** 121 **Type:** Conceptual **Diff:** 3
   Rationale: The cornea is the curved, transparent outer layer of the eye that bends incoming light.

5. **Chapter Section:** Visual Perception
   Answer: c **Page(s):** 124 **Type:** Factual **Diff:** 2
   Rationale: This is a factual question.

6. **Chapter Section:** Visual Perception
   Answer: c **Page(s):** 127 **Type:** Conceptual **Diff:** 2
   Rationale: Perceptual constancy is the process by which we perceive stimuli consistently across varied conditions.

7. **Chapter Section:** Sound: Mechanical Vibration
   Answer: a **Page(s):** 129 **Type:** Factual **Diff:** 3
   Rationale: This is a factual question.

8. **Chapter Section:** Hearing: The Auditory System
   Answer: a **Page(s):** 129 **Type:** Applied **Diff:** 2
   Rationale: Timbre refers to the quality or complexity of the sound, much like high-definition television provides a different/better quality and complexity of picture.

9. **Chapter Section:** Body Position and Balance
   Answer: a **Page(s):** 137 **Type:** Conceptual **Diff:** 3
   Rationale: The vestibular sense, or sense of equilibrium, relies on the cochlea and semicircular canals, which are located in the inner ear.

10. **Chapter Section:** Déjà Vu Experiences
    Answer: b **Page(s):** 142 **Type:** Factual **Diff:** 1
    Rationale: This is a factual question.

Chapter 4: Sensation and Perception

Multiple Choice

4.1-1. The organization and interpretation of olfactory information is one example of
a. accommodation.
b. perception.
c. sensation.
d. transduction.
Difficulty: 2
Question ID: 4.1-1
Page Ref: 114
Topic: Introduction
Skill: Applied
Objective: 4.1
Answer: b. perception.
Rationale: Perception is the process of organizing and interpreting information received by the sense organs.
% correct 37 a = 4 b = 37 c = 26 d = 0 *r* = .28

4.1-2. The ability to detect physical energy through our visual or touch systems is known as
a. accommodation.
b. perception.
c. sensation.
d. transduction.
Difficulty: 2
Question ID: 4.1-2
Page Ref: 114
Topic: Introduction
Skill: Factual
Objective: 4.1
Answer: c. sensation.
% correct 46 a = 0 b = 0 c = 46 d = 54 *r* = .49

4.1-3. _____ involves the detection of energy by sense organs, whereas _____ involves interpretating sensory inputs.
a. Perception; sensation
b. Transduction; perception
c. Sensation; perception
d. Sensation; transduction
Difficulty: 2
Question ID: 4.1-3
Page Ref: 114
Topic: Introduction
Skill: Factual
Objective: 4.1
Answer: c. Sensation; perception

4.1-4. By presenting research participants with incomplete objects, psychologists have been able to see how the participants come to determine what they are viewing. This research suggests that our daily experiences are the result of
   a. both reality and illusions.
   b. only illusions.
   c. only reality.
   d. only sensory information.

Difficulty: 3
Question ID: 4.1-4
Page Ref: 114
Topic: Introduction
Skill: Conceptual
Objective: 4.1
Answer: a. both reality and illusions.
Rationale: Though our sensory and perceptual abilities usually serve us well, there are some instances in which our tendencies fool us, as in the case of illusions.

4.1-5. Roger feels something land on his hand but has yet to determine its nature. At this point in time, Roger has experienced which process(es)?
   a. Sensation
   b. Perception
   c. Both sensation and perception
   d. Parallel processing

Difficulty: 1
Question ID: 4.1-5
Page Ref: 114
Topic: Introduction
Skill: Applied
Objective: 4.1
Answer: a. Sensation
Rationale: Sensation is the process of detecting physical energy from the environment using the sense organs.

4.1-6. If you close your eyes and touch a sharp object, your initial contact with the object involves which process(es)?
   a. Perception
   b. Sensation
   c. Both sensation and perception
   d. Parallel processing

Difficulty: 1
Question ID: 4.1-6
Page Ref: 114
Topic: Introduction
Skill: Applied
Objective: 4.1
Answer: b. Sensation
Rationale: Sensation is the process of detecting physical energy from the environment using the sense organs.

4.1-7. Cole was distressed to learn that he had a blind spot. In fact, he learned that everyone has a blind spot. Cole's inability to notice his own blind spot is most likely the result of which perceptual process?
   a. Illusion
   b. Distorted reality
   c. Retinal confusion
   d. Filling-in

Difficulty: 2
Question ID: 4.1-7
Page Ref: 114
Topic: Introduction
Skill: Applied
Objective: 4.1
Answer: d. Filling-in
Rationale: The process of filling-in involves our tendency to blend the real with the imagined; in most cases, this tendency serves us well.

4.1-8. Which of the following most closely mimics the process of transduction?
   a. Betty mixes eggs, flour, and sugar together to make a cake.
   b. While painting, Stan combines the colors red and blue to make purple.
   c. Gas companies convert crude oil into a fuel that car engines can run on.
   d. Nike changes its logo from a "swoosh" to a "panther."

Difficulty: 3
Question ID: 4.1-8
Page Ref: 115
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: c. Gas companies convert crude oil into a fuel that car engines can run on.
Rationale: Transduction is the process of converting external energy into a form the brain can understand (neural activity).

4.1-9. The process of converting an external energy or substance into neural activity is called
   a. sensation.
   b. perception.
   c. transduction.
   d. sensory adaptation.

Difficulty: 1
Question ID: 4.1-9
Page Ref: 115
Topic: Sensation: Our Senses as Detectives
Skill: Factual
Objective: 4.1
Answer: c. transduction.

4.1-10. The conversion of external energy into something that the nervous system can understand is known as
a. accommodation.
b. perception.
c. sensation.
d. transduction.
Difficulty: 1
Question ID: 4.1-10
Page Ref: 115
Topic: Sensation: Our Senses as Detectives
Skill: Factual
Objective: 4.1
Answer: d. transduction.
% correct 26 a = 13 b = 21 c = 39 d = 26 *r* = .44

4.1-11. Zach and David decide to go exploring the forest behind their farm on a cold December day. The fact that they felt much colder when they initially went outdoors than they do 5 minutes later, despite having not done anything to warm themselves, is known as
a. sensory adaptation.
b. sensory illusion.
c. sensory interaction.
d. transduction.
Difficulty: 3
Question ID: 4.1-11
Page Ref: 115
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: a. sensory adaptation.
Rationale: Sensory adaptation refers to the decline in activation of our sense receptors when a stimulus is unchanging.
% correct 66 a = 66 b = 0 c = 32 d = 2 *r* = .21

4.1-12. The sensitivity of our sensory abilities and systems is demonstrated in our _____ thresholds.
a. absolute
b. difference
c. pain
d. psychophysical
Difficulty: 2
Question ID: 4.1-12
Page Ref: 115
Topic: Sensation: Our Senses as Detectives
Skill: Factual
Objective: 4.1
Answer: a. absolute
% correct 77 a = 77 b = 6 c = 4 d = 13 *r* = .38

4.1-13. Computer programmers often use binary codes (strings of 1s and 0s) to write programs for computers. These codes are then changed into patterns that the computer recognizes as words, pictures, sounds, and so forth. Which process does this most resemble in humans and other animals?

a. Transduction
b. Bottom-up processing
c. Top-down processing
d. Conversion

Difficulty: 3
Question ID: 4.1-13
Page Ref: 115
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: a. Transduction
Rationale: Transduction is the process of converting external energy into a form the brain can understand (neural activity).

4.1-14. Dr. Retina is giving a lecture about the way lightwaves are converted into a neural signal that the brain can then interpret. What is most likely the topic of her lecture?

a. Conversion
b. Transduction
c. Parallel processing
d. Perception

Difficulty: 2
Question ID: 4.1-14
Page Ref: 115
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: b. Transduction
Rationale: Transduction is the process of converting external energy into a form the brain can understand (neural activity).

4.1-15. _____ is a specialized cell responsible for converting external stimuli into neural activity for a specific sensory system.

a. Sense receptor
b. Sensory adaptation
c. Selective attention
d. Cell sensor

Difficulty: 2
Question ID: 4.1-15
Page Ref: 115
Topic: Sensation: Our Senses as Detectives
Skill: Factual
Objective: 4.1
Answer: a. Sense receptor

4.1-16. Cason is initially blinded as he walks out of a daytime movie. However, very rapidly his eyes begin to adjust to the bright light. What is the best explanation for his rapid recovery?
   a. Perceptual adjustments
   b. Sensory deprivation
   c. Oversensitivity of his rods and cones
   d. Sensory adaptation

Difficulty: 2
Question ID: 4.1-16
Page Ref: 115
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: d. Sensory adaptation
Rationale: Sensory adaptation refers to the decline in activation of our sense receptors when a stimulus is unchanging.

4.1-17. Juanita walks into work and complains about how hot it is. The temperature did not change; however, 30 minutes later, Juanita is quite comfortable. This could be an example of
   a. absolute threshold.
   b. sensory adaptation.
   c. perception.
   d. transduction.

Difficulty: 2
Question ID: 4.1-17
Page Ref: 115
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: b. sensory adaptation.
Rationale: Sensory adaptation is a decline in activation within a sense receptor after initial activation.

4.1-18. The lowest level of a stimulus needed for the nervous system to detect a change half the time is called
   a. sense receptor.
   b. just noticeable difference.
   c. sensory adaptation.
   d. absolute threshold.

Difficulty: 1
Question ID: 4.1-18
Page Ref: 115
Topic: Sensation: Our Senses as Detectives
Skill: Factual
Objective: 4.1
Answer: d. absolute threshold.

4.1-19. Stephanie is just waking up at her cabin in the mountains and barely catches a whiff of fresh coffee brewing downstairs. The initial whiff of coffee might represent a crude measure of which concept?
   a. Absolute threshold
   b. Difference threshold
   c. Sensory adaptation
   d. Perceptual boundary

Difficulty: 3
Question ID: 4.1-19
Page Ref: 115
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: a. Absolute threshold
Rationale: Absolute threshold is the lowest level of a stimulus needed for our sense receptors and brain to detect it 50 percent of the time.

4.1-20. Which statement best reflects the concept of an absolute threshold?
   a. Jerry is listening to his iPod and smells pizza burning in the oven.
   b. Delilah is lying in her bed trying to fall asleep.As she is about to drift off, she is not certain but thinks she hears a car door close outside.
   c. Deanna can't tell if the new paint she used is different from the original color.
   d. As Jenny gets used to the buzzing of the engines, flying on a plane doesn't seem as scary.

Difficulty: 3
Question ID: 4.1-20
Page Ref: 115
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: b. Delilah is lying in her bed trying to fall asleep. As she is about to drift off, she is not certain but thinks she hears a car door close outside.
Rationale: Absolute threshold is the lowest level of a stimulus needed for our sense receptors and brain to detect it 50 percent of the time.

4.1-21. A soldier stationed at a base in northern Alaska is dressed in his all-white camouflage. He wants to know the exact distance another person can perceive him as NOT part of the snowbank he is hiding in. The soldier is concerned with the
   a. just noticeable difference.
   b. absolute threshold.
   c. visual processing boundary.
   d. limits of perceptual ability.

Difficulty: 2
Question ID: 4.1-21
Page Ref: 115–116
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: a. just noticeable difference.
Rationale: The just noticeable difference is the smallest change in the intensity of a stimulus (in this case, a change in distance and visual sensation) that we can detect.

4.1-22. Dr. Balkin is heating up a liquid he just created in the lab. He has recruited students to observe his experiments and pinpoint the exact moment the liquid begins to change color. Dr. Balkin is concerned with the
   a. signal-to-noise ratio.
   b. just noticeable difference.
   c. perceptual accuracy.
   d. absolute threshold.

Difficulty: 2
Question ID: 4.1-22
Page Ref: 115–116
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: b. just noticeable difference.
Rationale: The just noticeable difference is the smallest change in the intensity of a stimulus (in this case, a change in color) that we can detect.

4.1-23. _____ says that there is a constant proportional relationship between the just noticeable difference (JND) and the original stimulus intensity.
   a. Weber's law
   b. Signal detection theory
   c. Signal-to-noise ratio
   d. Sensory adaptation

Difficulty: 2
Question ID: 4.1-23
Page Ref: 116
Topic: Sensation: Our Senses as Detectives
Skill: Factual
Objective: 4.1
Answer: a. Weber's law

4.1-24. As the number of people talking in a room increases, the stimulus intensity needed to detect a change in the number of people talking becomes
   a. finer.
   b. larger.
   c. no different.
   d. smaller.

Difficulty: 2
Question ID: 4.1-24
Page Ref: 116
Topic: Sensation: Our Senses as Detectives
Skill: Conceptual
Objective: 4.1
Answer: b. larger.
Rationale: Signal detection theory predicts when we will detect certain stimuli. Researchers have found that as noise (additional people talking) increases, the signal becomes harder to detect.
% correct 63 a = 20 b = 63 c = 4 d = 13 *r* = .20

4.1-25. Alicia is talking on her cell phone to her friend Maya. If Maya is in a crowded subway terminal, Alicia finds that she has to nearly shout for Maya to be able to hear her. However, when Maya is in a meadow on her grandparents' farm, she can easily tell what Alicia is watching on TV as they talk. This is one illustration of

a. absolute threshold.
b. the just noticeable difference.
c. signal-to-noise ratio.
d. transduction.

Difficulty: 3
Question ID: 4.1-25
Page Ref: 116
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: c. signal-to-noise ratio.
Rationale: Signal detection theory predicts when we will detect certain stimuli. Researchers have found that as noise (from the crowded subway) increases, the signal (a friend's voice on a cell phone) becomes harder to detect.

4.1-26. Ramone and Sam are going to a concert. As they walk to the concert, they talk to one another in normal tones. But after they enter the arena, they discover that they practically have to yell at each other to continue their conversation. This example represents a change in

a. signal detection capabilities.
b. listener-to-audience ratio.
c. signal-to-noise ratio.
d. auditory transduction interference.

Difficulty: 2
Question ID: 4.1-26
Page Ref: 116
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: c. signal-to-noise ratio.
Rationale: Signal detection theory predicts when we will detect certain stimuli. With the signal-to-noise ratio, it becomes harder to detect a signal as background noise increases.

4.1-27. Which of the following is the best example of the signal-to-noise ratio?

a. Lisa has to listen very carefully to hear her friend talking in the car.
b. Bobby is shouting at the neighbor's dog that is digging up his yard.
c. While listening to the television, Kate is also reading her textbook.
d. Robyn has to shout over the boisterous crowd at the football game to be heard.

Difficulty: 3
Question ID: 4.1-27
Page Ref: 116
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: d. Robyn has to shout over the boisterous crowd at the football game to be heard.
Rationale: Signal detection theory predicts when we will detect certain stimuli. With the signal-to-noise ratio, it becomes harder to detect a signal as background noise increases.

4.1-28. You just ordered a pizza from your favorite restaurant and can't wait for it to get here. As time passes, everything you hear sounds like a car driving by. What accounts for your "heightened" sense of hearing?
   a. Signal-to-noise ratio
   b. Just noticeable difference
   c. Signal detection theory
   d. The quiet environment you are waiting in

Difficulty: 2
Question ID: 4.1-28
Page Ref: 116
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: c. Signal detection theory
Rationale: Signal detection theory predicts under what circumstances we will detect a weak stimulus.

4.1-29. Sun-Hi is a pianist who reports that she hears musical tones as colors. This is one example of
   a. binocular cues.
   b. the Ganzfield technique.
   c. the Ponzo illusion.
   d. synesthesia.

Difficulty: 3
Question ID: 4.1-29
Page Ref: 117
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: d. synesthesia.
Rationale: Synesthesia is a condition in which people experience cross-modal sensations, such as hearing sounds while seeing colors.

4.1-30. In _____ our beliefs and expectations often influence our sensory experiences.
   a. bottom-up processing
   b. parallel processing
   c. subliminal processing
   d. top-down processing

Difficulty: 1
Question ID: 4.1-30
Page Ref: 117
Topic: Perception: When Our Senses Meet Our Minds
Skill: Factual
Objective: 4.2
Answer: d. top-down processing

4.1-31. Attending to many modalities simultaneously is a phenomenon called
a. bottom-up processing.
b. top-down processing.
c. parallel processing.
d. selective attention.
Difficulty: 1
Question ID: 4.1-31
Page Ref: 117
Topic: Perception: When Our Senses Meet Our Minds
Skill: Factual
Objective: 4.2
Answer: c. parallel processing.

4.1-32. In _____ processing, we construct a whole stimulus from its parts.
a. parallel
b. bottom-up
c. perceptual set
d. top-down
Difficulty: 2
Question ID: 4.1-32
Page Ref: 117
Topic: Perception: When Our Senses Meet Our Minds
Skill: Factual
Objective: 4.2
Answer: b. bottom-up

4.1-33. _____ processing is conceptually driven and influenced by our beliefs and expectations.
a. Bottom-up
b. Parallel
c. Top-down
d. Sensory
Difficulty: 2
Question ID: 4.1-33
Page Ref: 117
Topic: Perception: When Our Senses Meet Our Minds
Skill: Factual
Objective: 4.2
Answer: c. Top-down

4.1-34. Juanita is holding her pet cat, Belle. The fact that she is getting information about Belle's weight as she sits on Juanita's lap, the sound of Belle's purrs, and the sight of Belle's eye movements all at the same time is an example of
   a. bottom-up processing.
   b. parallel processing.
   c. subliminal processing.
   d. top-down processing.

Difficulty: 1
Question ID: 4.1-34
Page Ref: 117
Topic: Perception: When Our Senses Meet Our Minds
Skill: Applied/Conceptual
Objective: 4.2
Answer: b. parallel processing.
Rationale: Parallel processing refers to our ability to simultaneously register information coming from multiple sense modalites (such as sight, hearing, and touch).
% correct 36 a = 24 b = 36 c = 17 d = 20 *r* = .31

4.1-35. Stanton is taking chemistry with Ms. Neville and has heard many negative stories about her class from his friends. The fact that his beliefs about Ms. Neville affect his interpretation of his interactions with her during the school year is an example of
   a. bottom-up processing.
   b. parallel processing.
   c. subliminal processing.
   d. top-down processing.

Difficulty: 2
Question ID: 4.1-35
Page Ref: 117
Topic: Perception: When Our Senses Meet Our Minds
Skill: Conceptual
Objective: 4.2
Answer: d. top-down processing.
Rationale: Top-down processing occurs when we use higher-level brain functions (such as knowledge, memory, emotion, or expectations) to interpret sensations.

4.1-36. Contestants on the television show "Wheel of Fortune" are given category labels before each new puzzle. Providing these labels is intended to activate _____ processing.
   a. bottom-down
   b. top-down
   c. bottom-up
   d. top-up

Difficulty: 2
Question ID: 4.1-36
Page Ref: 117
Topic: Perception: When Our Senses Meet Our Minds
Skill: Applied
Objective: 4.2
Answer: b. top-down
Rationale: Top-down processing occurs when we use higher-level brain functions (such as knowledge, memory, or expectations) to interpret sensations.

4.1-37. Learning a foreign language requires many students to focus intently on each letter of a word to read it. These students are relying most heavily on _____ processing.
   a. top-down
   b. bottom-down
   c. bottom-up
   d. top-up

Difficulty: 2
Question ID: 4.1-37
Page Ref: 117
Topic: Perception: When Our Senses Meet Our Minds
Skill: Applied
Objective: 4.2
Answer: c. bottom-up
Rationale: When we focus on raw sensory information and put it together to form a complete whole, we are engaging in bottom-up processing.

4.1-38. Professor Monk is showing students a series of "inkblots" from a well-known personality test. Although the pictures are ambiguous, he discovers that if he says the word "mother" before revealing each picture, his students are more likely to report seeing images of family members. What is the best explanation for this observation?
   a. Students are relying heavily on bottom-up processing.
   b. Professor Monk is engaging in experimenter bias.
   c. Students are using cross-talk to experience the images.
   d. Top-down and bottom-up processes are working together.

Difficulty: 2
Question ID: 4.1-38
Page Ref: 117
Topic: Perception: When Our Senses Meet Our Minds
Skill: Applied
Objective: 4.2
Answer: d. Top-down and bottom-up processes are working together.
Rationale: Looking at the inkblots would require bottom-up processing that starts with the eyes to construct a complete mental picture of the ambiguous shapes. However, the suggestion of the word "mother" involves top-down processing because we are influenced by our existing expectations of perceiving family members in the images.

4.1-39. The process of selecting one sensory channel and ignoring or minimizing others is called
   a. selective perception.
   b. selective attention.
   c. perceptual set.
   d. selective processing.

Difficulty: 2
Question ID: 4.1-39
Page Ref: 118
Topic: Perception: When Our Senses Meet Our Minds
Skill: Factual
Objective: 4.2
Answer: b. selective attention.

4.1-40. Clay has played professional soccer for seven years and is easily able to tune out the sound of the crowd and all other irrelevant sensory information during the game. Bruce is a rookie and is often distracted by what his opponents are saying and the mood of the crowd. Clay and Bruce are showing differing levels of
   a. selective attention.
   b. parallel processing.
   c. absolute thresholds.
   d. top-down processing.

Difficulty: 1
Question ID: 4.1-40
Page Ref: 118
Topic: Perception: When Our Senses Meet Our Minds
Skill: Conceptual
Objective: 4.2
Answer: a. selective attention.
Rationale: Selective attention allows us to focus our "attentional spotlight" on some aspects of our experience, while ignoring or minimizing others.
% correct 91 a = 91 b = 5 c = 1 d = 3 *r* = .31

4.1-41. According to Donald Broadbent's research, selective attention acts as a
   a. filter.
   b. key.
   c. safety net.
   d. trapdoor.

Difficulty: 1
Question ID: 4.1-41
Page Ref: 118
Topic: Perception: When Our Senses Meet Our Minds
Skill: Factual
Objective: 4.2
Answer: a. filter.

4.1-42. Which of the following individuals is engaging in selective attention?
   a. Carlos ignored his neighbor's talking during his psychology professor's lecture.
   b. Susie is listening to her iPod while doing her homework.
   c. Bart is riding his bike and talking with his friend Jake on the phone.
   d. Maria is trying to read her favorite novel while listening to a movie at the same time.

Difficulty: 2
Question ID: 4.1-42
Page Ref: 118
Topic: Perception: When Our Senses Meet Our Minds
Skill: Applied
Objective: 4.2
Answer: a. Carlos ignored his neighbor's talking during his psychology professor's lecture.
Rationale: Selective attention refers to our ability to pay attention to one sensory channel while ignoring or minimizing others.

4.1-43. Tommy is a professional basketball player and has years of experience tuning out the crowd noise as he prepares to shoot his free throws. Tommy is engaging in
   a. intense concentration.
   b. selective attention.
   c. dichotic listening.
   d. parallel processing.

Difficulty: 2
Question ID: 4.1-43
Page Ref: 118
Topic: Perception: When Our Senses Meet Our Minds
Skill: Applied
Objective: 4.2
Answer: b. selective attention.
Rationale: Selective attention refers to our ability to pay attention to one sensory channel while ignoring or minimizing others.

4.1-44. Amanda notices a tree is brown, has a rough texture, and is solid. Although individually these characteristics do not define a tree, when combined, they do. Which perceptual process allows her to identify the object as a tree?
   a. Selective attention
   b. Top-down processing
   c. Binding
   d. Multi-tasking

Difficulty: 2
Question ID: 4.1-44
Page Ref: 118
Topic: Perception: When Our Senses Meet Our Minds
Skill: Applied
Objective: 4.2
Answer: c. Binding
Rationale: The binding problem refers to the mysterious complexity of thought and perception that allows us to take multiple pieces of information and bind, or combine, them to represent a unified whole.

4.1-45. The processing of sensory information that occurs below the level of conscious awareness is called
   a. selective attention.
   b. top-down processing.
   c. subliminal perception.
   d. bottom-up processing.

Difficulty: 2
Question ID: 4.1-45
Page Ref: 118
Topic: Subliminal Information Processing
Skill: Factual
Objective: 4.2
Answer: c. subliminal perception.

4.1-46. Lucy has been in love with Charlie for a very long time. Everytime they are together, she whispers the word "love" over and over again at a level that is barely audible. Although Charlie never remembers hearing the message, Lucy is convinced that she is getting through to him. Should Lucy be so optimistic?

a. No; although Charlie may be "hearing" the message subliminally, it is not likely to persuade him one way or the other.
b. Yes; subliminal perception is real and there is little doubt that it can alter behavior.
c. Maybe; if Lucy breaks through to a deeper level of consciousness, she can convince Charlie to fall in love.
d. No; subliminal persuasion has been shown to be highly effective, but only when one is hungry or thirsty.

Difficulty: 2
Question ID: 4.1-46
Page Ref: 118–119
Topic: Subliminal Information Processing
Skill: Applied
Objective: 4.2
Answer: a. No; although Charlie may be "hearing" the message subliminally, it is not likely to persuade him one way or the other.
Rationale: Though there is compelling evidence that we can perceive some information subliminally, that information is unlikely in most cases to have any long-term or profound effect on our attitudes or behavior.

4.1-47. Subliminal self-help tapes have a _____ success rate.

a. very high
b. moderate to high
c. low to moderate
d. very low

Difficulty: 2
Question ID: 4.1-47
Page Ref: 119
Topic: Subliminal Information Processing
Skill: Factual
Objective: 4.2
Answer: d. very low

4.1-48. Matt is considering the purchase of subliminal self-help tapes to aid him in losing weight. His wife, Marge, is skeptical about this plan and asks your advice. Based on available evidence, what would you say about the effectiveness of subliminal self-help tapes?

a. They are effective.
b. They are highly effective, but only if you believe they'll be effective.
c. They are ineffective.
d. More research is needed to assess their effectiveness or ineffectiveness.

Difficulty: 3
Question ID: 4.1-48
Page Ref: 119
Topic: Subliminal Information Processsing
Skill: Factual
Objective: 4.2
Answer: c. They are ineffective.

4.1-49. The most heavily studied sense is
a. hearing.
b. sight.
c. taste.
d. touch.
Difficulty: 3
Question ID: 4.1-49
Page Ref: 120
Topic: Seeing: The Visual System
Skill: Factual
Objective: 4.3
Answer: b. sight.

4.1-50. Light, a central player in our visual perception of the world, is a form of
a. chemical energy.
b. mechanical energy.
c. vibration.
d. electromagnetic energy.
Difficulty: 2
Question ID: 4.1-50
Page Ref: 120
Topic: Light: The Energy of Life
Skill: Factual
Objective: 4.3
Answer: d. electromagnetic energy.

4.1-51. The color of light is what psychologists call
a. brightness.
b. hue.
c. synesthesia.
d. timbre.
Difficulty: 1
Question ID: 4.1-51
Page Ref: 120
Topic: Light: The Energy of Life
Skill: Factual
Objective: 4.3
Answer: b. hue.

4.1-52. The color of light is called
a. brightness.
b. hue.
c. saturation.
d. complexity.
Difficulty: 1
Question ID: 4.1-52
Page Ref: 120
Topic: Light: The Energy of Life
Skill: Factual
Objective: 4.3
Answer: b. hue.

4.1-53. The intensity of the reflected light that reaches our eyes is known as
a. hue.
b. contrast.
c. brightness.
d. saturation.
Difficulty: 1
Question ID: 4.1-53
Page Ref: 120
Topic: Light: The Energy of Life
Skill: Factual
Objective: 4.3
Answer: c. brightness.

4.1-54. Professor Benson is conducting experiments on visual perception. He is currently reflecting light off several patches of cloth and recording his findings. The professor is most concerned with which aspect of visual perception?
a. The visible spectrum
b. Brightness
c. Hue
d. Color mixing
Difficulty: 3
Question ID: 4.1-54
Page Ref: 120
Topic: Light: The Energy of Life
Skill: Applied
Objective: 4.3
Answer: b. Brightness
Rationale: Brightness is the intensity of reflected light that reaches our eyes.

4.1-55. The first part of the eye that light passes through is the
a. retina.
b. pupil.
c. fovea.
d. cornea.
Difficulty: 2
Question ID: 4.1-55
Page Ref: 121
Topic: The Eye: How We Represent the Visual Realm
Skill: Factual
Objective: 4.3
Answer: d. cornea.

4.1-56. The part(s) of the eye containing transparent cells that focus light on the retina is/are the
a. rods.
b. fovea.
c. cornea.
d. cones.
Difficulty: 1
Question ID: 4.1-56
Page Ref: 121
Topic: The Eye: How We Represent the Visual Realm
Skill: Factual
Objective: 4.3
Answer: c. cornea.

4.1-57. When light enters the eye, it first passes through what structure?
a. Cornea
b. Lens
c. Pupil
d. Sclera
Difficulty: 3
Question ID: 4.1-57
Page Ref: 121
Topic: The Eye: How We Represent the Visual Realm
Skill: Conceptual
Objective: 4.3
Answer: a. Cornea
Rationale: The cornea is the curved, transparent outer layer of the eye that bends incoming light.

4.1-58. Our visual sensory receptor cells are located in the
a. cornea.
b. fovea.
c. optic nerve.
d. retina.
Difficulty: 3
Question ID: 4.1-58
Page Ref: 121
Topic: The Eye: How We Represent the Visual Realm
Skill: Factual
Objective: 4.3
Answer: d. retina.

4.1-59. The central portion of the retina is the
a. fovea.
b. lens.
c. cornea.
d. cones.
Difficulty: 1
Question ID: 4.1-59
Page Ref: 121
Topic: The Eye: How We Represent the Visual Realm
Skill: Factual
Objective: 4.3
Answer: a. fovea.

4.1-60. The white of the eye is the
a. pupil.
b. retina.
c. fovea.
d. sclera.
Difficulty: 2
Question ID: 4.1-60
Page Ref: 121
Topic: The Eye: How We Represent the Visual Realm
Skill: Factual
Objective: 4.3
Answer: d. sclera.

4.1-61. Bryan finds his girlfriend Christina far more attractive as she leaves the darkened movie theater than before they entered. What might account for Bryan's reaction?
   a. Research suggests that attractiveness is affected by eye color.
   b. Research suggests that the lighting in theaters affects our visual perception.
   c. Research suggests that most people find enlarged pupils more attractive.
   d. Research suggests that perceived attractiveness increases as the pupil becomes smaller.

Difficulty: 2
Question ID: 4.1-61
Page Ref: 121
Topic: The Eye: How We Represent the Visual Realm
Skill: Applied
Objective: 4.3
Answer: c. Research suggests that most people find enlarged pupils more attractive.
Rationale: In addition to helping us see in different levels of light, pupil size also has psychological significance. We tend to find a face with dilated pupils more attractive than one with smaller pupils.

4.1-62. What structure changes its shape to focus light at the back of the eye?
   a. Cone
   b. Fovea
   c. Lens
   d. Retina

Difficulty: 2
Question ID: 4.1-62
Page Ref: 121–122
Topic: The Eye: How We Represent the Visual Realm
Skill: Factual
Objective: 4.3
Answer: c. Lens

4.1-63. Changing the shape of the lens to focus on objects near or far is called
   a. focusing.
   b. accommodation.
   c. constriction.
   d. dilation.

Difficulty: 2
Question ID: 4.1-63
Page Ref: 122
Topic: The Eye: How We Represent the Visual Realm
Skill: Factual
Objective: 4.3
Answer: b. accommodation.

4.1-64. Jan can see objects well up close, but they appear blurry from afar. She is probably
a. color blind.
b. nearsighted.
c. farsighted.
d. developing a cataract.
Difficulty: 2
Question ID: 4.1-64
Page Ref: 122
Topic: The Eye: How We Represent the Visual Realm
Skill: Applied
Objective: 4.3
Answer: b. nearsighted.
Rationale: Nearsightedness is the ability to see well close up but not far away.

4.1-65. In which of these vision properties do rods NOT play a part?
a. night vision
b. color vision
c. low-level light
d. peripheral vision
Difficulty: 2
Question ID: 4.1-65
Page Ref: 122
Topic: The Eye: How We Represent the Visual Realm
Skill: Factual
Objective: 4.3
Answer: b. color vision

4.1-66. A blind spot is a part of the visual field we can't see, where the _____ connects to the _____.
a. retina; pupil
b. cornea; iris
c. optic nerve; retina
d. optic nerve; sclera
Difficulty: 2
Question ID: 4.1-66
Page Ref: 122
Topic: The Eye: How We Represent the Visual Realm
Skill: Factual
Objective: 4.3
Answer: c**.** optic nerve; retina

4.1-67. When Stewart wakes up at night and has to walk from his bedroom to the bathroom in the dark, he is most directly aided in this process by his
   a. cones.
   b. corneas.
   c. irises.
   d. rods.

Difficulty: 3
Question ID: 4.1-67
Page Ref: 122
Topic: The Eye: How We Represent the Visual Realm
Skill: Applied
Objective: 4.3
Answer: d. rods.
Rationale: Rods are receptor cells in the retina that become active in low light and allow us to see basic shapes and forms (but not color).
% correct 28 a = 4 b = 39 c = 24 d = 28 *r* = .20

4.1-68. The _____ carries sensory information from the retina to the brain areas where visual perception will occur.
   a. fovea
   b. lens
   c. optic nerve
   d. retina

Difficulty: 2
Question ID: 4.1-68
Page Ref: 122
Topic: The Eye: How We Represent the Visual Realm
Skill: Conceptual
Objective: 4.3
Answer: c. optic nerve
Rationale: The optic nerve is a pathway that runs from the retina to the rest of the brain.

4.1-69. Camden is performing an in-class demonstration directed by his professor. Camden is asked to close one eye and focus on his pencil with the other. Then he is asked to slowly move the pencil closer to his open eye. To Camden's amazement, for a brief instant the pencil seems to disappear. What has likely occurred?
   a. Camden temporarily looked away from the pencil.
   b. His professor briefly covered the pencil up when Camden was distracted.
   c. The pencil temporarily passed through Camden's blind spot.
   d. Camden experienced temporary color blindness.

Difficulty: 2
Question ID: 4.1-69
Page Ref: 122
Topic: The Eye: How We Represent the Visual Realm
Skill: Applied
Objective: 4.3
Answer: c. The pencil temporarily passed through Camden's blind spot.
Rationale: The blind spot is a part of the visual field that we can't see. It is located at the spot where the optic nerve connects to the retina.

4.1-70. Dr. Samuels is using his students in a live demonstration of the visual system. He has placed several students in a line and has asked each student to jump and down ONLY when a specific hand motion is given. He then assigns independent hand signals to each student. What aspect of the visual system might Dr. Samuels be demonstrating?

a. Feature detection
b. Transduction
c. Priming of the visual cortex
d. Pattern recognition

Difficulty: 3
Question ID: 4.1-70
Page Ref: 123
Topic: Visual Perception
Skill: Applied
Objective: 4.4
Answer: a. Feature detection
Rationale: Feature detectors are neurons that fire only in response to specific patterns, such as lines and edges, or to other types of perceptual information, including complex shapes and moving objects (like a hand signal).

4.1-71. What psychological school first identified that visual perception occurs in terms of whole objects rather than individual component parts?

a. Behaviorism
b. Gestalt
c. Humanistic
d. Psychoanalytic

Difficulty: 1
Question ID: 4.1-71
Page Ref: 124
Topic: Visual Perception
Skill: Factual
Objective: 4.4
Answer: b. Gestalt
% correct 82 a = 2 b = 82 c = 15 d = 1 *r* = .35

4.1-72. All of the following are Gestalt principles of perception EXCEPT

a. proximity.
b. similarity.
c. complexity.
d. continuity.

Difficulty: 2
Question ID: 4.1-72
Page Ref: 124
Topic: Visual Perception
Skill: Factual
Objective: 4.4
Answer: c. complexity.

4.1-73. If these lines, _____ _____ _____ , were seen as one long line, this would be an example of the Gestalt principle of
   a. proximity.
   b. closure.
   c. continuity.
   d. symmetry.

Difficulty: 2
Question ID: 4.1-73
Page Ref: 124
Topic: Visual Perception
Skill: Applied
Objective: 4.4
Answer: b. closure.
Rationale: The principle of closure leads the mind to fill in what's missing to create a coherent whole.

4.1-74. When taking a picture, photographers attempt to draw people's attention toward a particular image. This is one example of the Gestalt principle of
   a. closure.
   b. figure-ground.
   c. proximity.
   d. symmetry.

Difficulty: 3
Question ID: 4.1-74
Page Ref: 124
Topic: Visual Perception
Skill: Applied
Objective: 4.4
Answer: b. figure-ground.
Rationale: Figure-ground perception allows us to distinguish the central figure from the background. We usually make this perceptual decision instantaneously.

4.1-75. At a junior high dance, Mr. Holland tends to view boys and girls sitting together as "couples," regardless of whether they are actually dating. This illustrates the Gestalt principle of
   a. closure.
   b. proximity.
   c. similarity.
   d. symmetry.

Difficulty: 2
Question ID: 4.1-75
Page Ref: 124
Topic: Visual Perception
Skill: Conceptual
Objective: 4.4
Answer: b. proximity.
Rationale: The Gestalt principle of proximity predicts that we will perceive objects that are close to each other as being part of a unified whole.
% correct 85 a = 10 b = 85 c = 5 d = 0 *r* = .26

4.1-76. As we listen to music on the radio or on our iPods, we more often are aware of the arrangement of tones into melodies rather than just focusing on the individual notes. This auditory perception is compatible with the principles established by
   a. behavioral psychologists.
   b. Gestalt psychologists.
   c. humanistic psychologists.
   d. psychodynamic psychologists.

Difficulty: 3
Question ID: 4.1-76
Page Ref: 124
Topic: Visual Perception
Skill: Conceptual
Objective: 4.4
Answer: b. Gestalt psychologists.
Rationale: Gestalt psychologists focus on our perceptions of the "whole" rather than the "parts".

4.1-77. Carol is at the football game and watching the half-time show. Which Gestalt principle best explains her ability to "recognize" her school's letters as the band members spell them out on the field?
   a. Proximity
   b. Similarity
   c. Symmetry
   d. Closure

Difficulty: 2
Question ID: 4.1-77
Page Ref: 124
Topic: Visual Perception
Skill: Applied
Objective: 4.4
Answer: b. Similarity
Rationale: The Gestalt principle of similarity says that we group items that have a similar appearance, such as band members wearing the same uniforms.

4.1-78. Julio is playing paintball with his friends. He is wearing his new camouflage suit, hoping that it will interfere with which Gestalt principle?
   a. Proximity
   b. Similarity
   c. Closure
   d. Figure-ground

Difficulty: 2
Question ID: 4.1-78
Page Ref: 124
Topic: Visual Perception
Skill: Applied
Objective: 4.4
Answer: d. Figure-ground
Rationale: Figure-ground perception allows us to distinguish the central figure from the background. We usually make this perceptual decision instantaneously.

4.1-79. The _____ is the illusory perception of movement produced by the successive flashing of images.
a. trichromatic theory
b. monocular cue
c. phi phenomenon
d. binocular cue
Difficulty: 2
Question ID: 4.1-79
Page Ref: 125
Topic: Visual Perception
Skill: Factual
Objective: 4.4
Answer: c. phi phenomenon

4.1-80. Our ability to see action, rather than a series of static pictures, in movies is the result of
a. closure.
b. good continuation.
c. the phi phenomenon.
d. symmetry.
Difficulty: 3
Question ID: 4.1-80
Page Ref: 125
Topic: Visual Perception
Skill: Factual
Objective: 4.4
Answer: c. the phi phenomenon.
% correct 65 a = 13 b = 15 c = 65 d = 7 *r* = .34

4.1-81. Stan is a student in your psychology class and is currently studying visual perception. He was surprised to discover that he is color blind. What is the best explanation for why Stan's condition was not discovered earlier?
a. Stan likely has red-green color blindness and did not even know it.
b. Stan was not focused on color identification initially, but now sees its value.
c. Stan is most likely missing all types of cones.
d. The rods in Stan's retinas are not as numerous as they should be.
Difficulty: 2
Question ID: 4.1-81
Page Ref: 126
Topic: Visual Perception
Skill: Applied
Objective: 4.4
Answer: a. Stan likely has red-green color blindness and did not even know it.
Rationale: Color blindness (especially red-green color blindness, the most common type) is often not noticed by the individual because it doesn't impair daily life much, if at all. Color is usually not the only source of information in everyday life.

4.1-82. The ability to judge distance and three-dimensional relations is known as
   a. color blindness.
   b. monocular depth cues.
   c. depth perception.
   d. trichromatic theory.

Difficulty: 1
Question ID: 4.1-82
Page Ref: 126
Topic: Visual Perception
Skill: Factual
Objective: 4.4
Answer: c. depth perception.

4.1-83. The monocular cue of _____ is being used when an artist places trees in front of riders to create a sense of depth when the picture is viewed.
   a. interposition
   b. light and shadow
   c. linear perspective
   d. texture gradient

Difficulty: 3
Question ID: 4.1-83
Page Ref: 126
Topic: Visual Perception
Skill: Conceptual
Objective: 4.4
Answer: a. interposition
Rationale: The monocular cue of interposition states that an object blocking the view of another object is closer.

4.1-84. Which is NOT a monocular cue?
   a. Texture gradient
   b. Convergence
   c. Relative size
   d. Linear perspective

Difficulty: 2
Question ID: 4.1-84
Page Ref: 126
Topic: Visual Perception
Skill: Factual
Objective: 4.4
Answer: b. Convergence

4.1-85. Tom spent the morning taking pictures in the small coves of a local lake. What monocular cue is providing depth perception when the near objects in his photographs appear much larger than those on the opposite shore of the cove?
   a. Motion parallax
   b. Interposition
   c. Linear perspective
   d. Relative size

Difficulty: 3
Question ID: 4.1-85
Page Ref: 126
Topic: Visual Perception
Skill: Applied/Conceptual
Objective: 4.4
Answer: d. Relative size
Rationale: The monocular cue of relative size refers to our tendency to assume that closer objects look larger than more distant objects.

4.1-86. What experimental apparatus has been used to study depth perception in infants?
   a. The Ames Room
   b. Escher lithographs
   c. The visual cliff
   d. Zener cards

Difficulty: 2
Question ID: 4.1-86
Page Ref: 127
Topic: Visual Perception
Skill: Factual
Objective: 4.4
Answer: c. The visual cliff

4.1-87. Seven-month-old Mazie is crawling toward the end of the bed. How likely is it that she will continue on and fall off?
   a. Unlikely, because depth perception develops very early in infants.
   b. Unlikely, because her mother will probably stop her before she reaches the end.
   c. Likely, because infants only use monocular cues when judging depth.
   d. Likely, because depth perception develops later in childhood.

Difficulty: 2
Question ID: 4.1-87
Page Ref: 127
Topic: Visual Perception
Skill: Applied
Objective: 4.4
Answer: a. Unlikely, because depth perception develops very early in infants.
Rationale: By the time infants are crawling, they are able to perceive (and usually avoid) a drop-off. The visual cliff has been used to study this perceptual ability in a variety of species.

4.1-88. Even though the cars at the end of the train look miniature, we know they are full-size due to
a. binocular cues.
b. monocular cues.
c. perceptual constancy.
d. perceptual illusion.
Difficulty: 2
Question ID: 4.1-88
Page Ref: 127
Topic: Visual Perception
Skill: Conceptual
Objective: 4.4
Answer: c. perceptual constancy.
Rationale: Perceptual constancy is the process by which we perceive stimuli consistently across varied conditions.

4.1-89. The fact that you can easily recognize a picture of Mickey Mouse or Bart Simpson as that character, no matter what angle they are presented in during a cartoon , is an example of
a. color constancy.
b. location constancy.
c. shape constancy.
d. size constancy.
Difficulty: 3
Question ID: 4.1-89
Page Ref: 127
Topic: Visual Perception
Skill: Applied/Conceptual
Objective: 4.4
Answer: c. shape constancy.
Rationale: Shape constancy allows us to perceive the same object, even as the retinal image (the sensation) changes.

4.1-90. Which of the following best exemplifies the concept of perceptual constancy?
a. An open window looks less like a window than a closed window.
b. An airplane flying off into the distance appears to get smaller.
c. As a child throws a ball high into the sky, it looks like it is getting bigger when it comes back down.
d. As a shadow passes over your newspaper, you know that the page is not getting darker.
Difficulty: 2
Question ID: 4.1-90
Page Ref: 127
Topic: Visual Perception
Skill: Applied
Objective: 4.4
Answer: d. As a shadow passes over your newspaper, you know that the page is not getting darker.
Rationale: Color constancy refers to our ability to perceive the same color across different levels of light.

4.1-91. Jordan and her friends are in the front row for a rock concert. During the concert, the lead singer moves all around the stage but Jordan continues to perceive him as the same height even though the image received in her eye and brain constantly changes. This illustrates which type of perceptual constancy?
   a. Color constancy
   b. Location constancy
   c. Shape constancy
   d. Size constancy

Difficulty: 2
Question ID: 4.1-91
Page Ref: 128
Topic: Visual Perception
Skill: Conceptual
Objective: 4.4
Answer: d. Size constancy
Rationale: Size constancy allows us to perceive an object of consistent size, even as the sensations hitting our retinas change.
% correct 78 a = 0 b = 4 c = 17 d = 78 *r* = .21

4.1-92. Which of the following have been used to study depth perception?
   a. Ganzfield techniques
   b. The old/young woman picture and other ambiguous images
   c. Perceptual illusions
   d. Zener cards

Difficulty: 3
Question ID: 4.1-92
Page Ref: 128
Topic: Visual Perception
Skill: Conceptual
Objective: 4.4
Answer: c. Perceptual illusions
Rationale: Several illusions that "trick" our normally useful depth perception abilities, such as the moon illusion, the Muller-Lyer illusion, and the Ponzo illusion, help us understand everyday perception.

4.1-93. Scott is at lunch with his friends, playing with some straws. He places two pennies between straws that are parallel and two between two straws that are angled toward each other. What perceptual illusion is Scott trying to recreate?
   a. Muller-Lyer illusion
   b. Horizontal-vertical illusion
   c. Ponzo illusion
   d. Moon illusion

Difficulty: 2
Question ID: 4.1-93
Page Ref: 128
Topic: Visual Perception
Skill: Applied
Objective: 4.4
Answer: c. Ponzo illusion
Rationale: The Ponzo illusion involves our perception that when converging lines enclose two objects of identical size, we perceive the object closer to the converging lines as larger.

4.1-94. Our sense of hearing is called
a. audition.
b. gustation.
c. olfaction.
d. proprioception.
Difficulty: 1
Question ID: 4.1-94
Page Ref: 129
Topic: Hearing: The Auditory System
Skill: Factual
Objective: 4.5
Answer: a. audition.

4.1-95. Brightness refers to the intensity of light. The corresponding term when discussing sound is
a. hue.
b. loudness.
c. pitch.
d. timbre.
Difficulty: 3
Question ID: 4.1-95
Page Ref: 129
Topic: Sound: Mechanical Vibration
Skill: Conceptual
Objective: 4.5
Answer: b. loudness.
Rationale: Loudness refers to the amplitude, or height, of the sound wave; it is measured in decibels.
% correct 30 a = 5 b = 30 c = 55 d = 10 *r* = .22

4.1-96. As we age, it becomes more difficult for us to hear _____ sounds.
a. high-frequency
b. moderate-frequency
c. low- to moderate-frequency
d. low-frequency
Difficulty: 3
Question ID: 4.1-96
Page Ref: 129
Topic: Sound: Mechanical Vibration
Skill: Factual
Objective: 4.5
Answer: a. high-frequency

4.1-97. A whistle that can only be heard by dogs, but not humans, exploits which aspect of the auditory system?
   a. Loudness
   b. Timbre
   c. Pitch
   d. Decibels

Difficulty: 2
Question ID: 4.1-97
Page Ref: 129
Topic: Sound: Mechanical Vibration
Skill: Applied
Objective: 4.5
Answer: c. Pitch
Rationale: Pitch refers to the frequency of the sound wave. Because the human ear can only hear certain frequencies, a sensitivity that changes with age, a dog whistle could blast a higher-pitched tone.

4.1-98. The _____ is the wave frequency of a sound.
   a. audition
   b. timbre
   c. amplitude
   d. pitch

Difficulty: 1
Question ID: 4.1-98
Page Ref: 129
Topic: Sound: Mechanical Vibration
Skill: Factual
Objective: 4.5
Answer: d. pitch

4.1-99. The complexity or quality of sound that makes instruments, voices, and other sources of sound unique is called
   a. audition.
   b. acuity.
   c. timbre.
   d. wavelength.

Difficulty: 1
Question ID: 4.1-99
Page Ref: 129
Topic: Sound: Mechanical Vibration
Skill: Factual
Objective: 4.5
Answer: c. timbre.

4.1-100. The difference between high-definition television and regular television is analogous to which component of sound?
a. Pitch
b. Loudness
c. Amplitude
d. Timbre
Difficulty: 2
Question ID: 4.1-100
Page Ref: 129
Topic: Sound: Mechanical Vibration
Skill: Applied
Objective: 4.5
Answer: d. Timbre
Rationale: Timbre refers to the quality or complexity of the sound, much like high-definition television provides a different/better quality and complexity of picture.

4.1-101. Which component of sound is likely to be most affected by upgrading your old headphones to a set of "noise-cancelling" headphones?
a. Timbre
b. Pitch
c. Loudness
d. Frequency
Difficulty: 2
Question ID: 4.1-101
Page Ref: 129
Topic: Hearing: The Auditory System
Skill: Applied
Objective: 4.5
Answer: a. Timbre
Rationale: Timbre refers to the quality or complexity of the sound, much like high-definition television provides a different/better quality and complexity of picture.

4.1-102. Loudness is associated with a sound wave's
a. amplitude.
b. length.
c. pitch.
d. timbre.
Difficulty: 1
Question ID: 4.1-102
Page Ref: 129
Topic: Sound: Mechanical Vibration
Skill: Factual
Objective: 4.5
Answer: a. amplitude.

4.1-103. Humans can hear sounds ranging from
a. 20 to 2,000 dB.
b. 20 to 2,000 Hz.
c. 20 to 20,000 dB.
d. 20 to 20,000 Hz.
Difficulty: 2
Question ID: 4.1-103
Page Ref: 129
Topic: Sound: Mechanical Vibration
Skill: Factual
Objective: 4.5
Answer: d. 20 to 20,000 Hz.

4.1-104. The bony, spiral-shaped sense organ used for hearing is the
a. basilar membrane.
b. cochlea.
c. timbre.
d. pinna.
Difficulty: 1
Question ID: 4.1-104
Page Ref: 130
Topic: How the Ear Works
Skill: Factual
Objective: 4.5
Answer: b. cochlea.

4.1-105. The part of the ear we see is called the
a. cochlea.
b. pinna.
c. tympanic membrane.
d. ossicle.
Difficulty: 2
Question ID: 4.1-105
Page Ref: 130
Topic: How the Ear Works
Skill: Factual
Objective: 4.5
Answer: b. pinna.

4.1-106. The sensory receptors in the ear are found in the
a. cochlea.
b. ear canal.
c. eardrum.
d. pinna.
Difficulty: 2
Question ID: 4.1-106
Page Ref: 130–131
Topic: How the Ear Works
Skill: Conceptual
Objective: 4.5
Answer: a. cochlea.
Rationale: The cochlea is a snail-shaped tube that contains the hair cells (the sensory receptors of the ear).

4.1-107. Once sound waves have been converted into neural activity, the _____ carries them to the brain for auditory perception.
a. auditory nerve
b. basilar membrane
c. cochlea
d. pinna
Difficulty: 2
Question ID: 4.1-107
Page Ref: 131
Topic: How the Ear Works
Skill: Factual
Objective: 4.5
Answer: a. auditory nerve

4.1-108. Human perception of high-pitched tones is best explained by _____ theory.
a. frequency
b. opponent process
c. place
d. volley
Difficulty: 3
Question ID: 4.1-108
Page Ref: 131–132
Topic: Auditory Perception
Skill: Factual
Objective: 4.6
Answer: c. place

4.1-109. In detecting the source of sounds, we tend to rely most heavily on _____ cues.
a. binaural
b. binocular
c. monaural
d. monocular
Difficulty: 2
Question ID: 4.1-109
Page Ref: 132
Topic: Auditory Perception
Skill: Factual
Objective: 4.6
Answer: a. binaural

4.1-110. Infant Esme is just waking up from her nap. As her mom enters the room, Esme turns her head in Mom's direction. Which of the following allowed Esme to know the direction Mom would be entering from?

a. Echolocation
b. Sound shadow
c. Auditory perceptual cues
d. Binaural cues

Difficulty: 2
Question ID: 4.1-110
Page Ref: 132
Topic: Auditory Perception
Skill: Applied
Objective: 4.6
Answer: d. Binaural cues
Rationale: The fact that we have two ears, located at different points on our head, helps us to localize sound.

4.1-111. Our sense of taste is called

a. gustation.
b. olfaction.
c. proprioception.
d. the vestibular sense.

Difficulty: 1
Question ID: 4.1-111
Page Ref: 132
Topic: Smell, Taste, and Touch: The Sensual Senses
Skill: Factual
Objective: 4.7
Answer: a. gustation.
% correct 65 a = 65 b = 15 c = 15 d = 5 *r* = .45

4.1-112. Somatosensation refers to our

a. sense of smell.
b. vision.
c. sense of touch.
d. hearing.

Difficulty: 1
Question ID: 4.1-112
Page Ref: 133
Topic: Smell, Taste, and Touch: The Sensual Senses
Skill: Factual
Objective: 4.7
Answer: c. sense of touch.

4.1-113. Which of the following statements about taste and smell is true?
a. Our nose and tongue identify approximately the same numbers of odors and tastes, respectively.
b. Our nose and tongue identify exactly the same numbers of odors and tastes, respectively.
c. Our nose identifies far more odors than our tongue identifies tastes.
d. Our tongue identifies far more tastes than our nose identifies odors.
Difficulty: 3
Question ID: 4.1-113
Page Ref: 133
Topic: Taste and Smell Go Hand in Hand
Skill: Factual
Objective: 4.7
Answer: c. Our nose identifies far more odors than our tongue identifies tastes.

4.1-114. We are sensitive to _____ basic tastes.
a. three
b. five
c. seven
d. countless
Difficulty: 1
Question ID: 4.1-114
Page Ref: 133
Topic: Taste and Smell Go Hand in Hand
Skill: Factual
Objective: 4.7
Answer: b. five

4.1-115. Which of the following are the five basic tastes?
a. Sweet, salty, spicy, bitter, umami
b. Salty, sour, tangy, sweet, bitter
c. Sweet, salty, sour, bitter, umami
d. Sour, bitter, spicy, sweet, umami
Difficulty: 2
Question ID: 4.1-115
Page Ref: 133
Topic: Taste and Smell Go Hand in Hand
Skill: Factual
Objective: 4.7
Answer: c. Sweet, salty, sour, bitter, umami

4.1-116. Which of the following is NOT one of the five basic tastes?
a. Bitter
b. Salty
c. Spicy
d. Sour
Difficulty: 1
Question ID: 4.1-116
Page Ref: 133
Topic: Taste and Smell Go Hand in Hand
Skill: Factual
Objective: 4.7
Answer: c. Spicy

4.1-117. The fifth taste, umami, was first identified by researchers in
a. China.
b. Japan.
c. Korea.
d. the United States.
Difficulty: 3
Question ID: 4.1-117
Page Ref: 133
Topic: Taste and Smell Go Hand in Hand
Skill: Factual
Objective: 4.7
Answer: b. Japan.

4.1-118. Our ability to experience so many different tastes, despite the limited number of taste sensations, demonstrates the interplay between our senses of taste and
a. hearing.
b. smell.
c. touch.
d. vision.
Difficulty: 2
Question ID: 4.1-118
Page Ref: 133
Topic: Taste and Smell Go Hand in Hand
Skill: Conceptual
Objective: 4.7
Answer: b. smell.
Rationale: Our sense of taste is strongly influenced by our sense of smell; with our nose plugged, we become much less able to detect different tastes.

4.1-119. Rafael has a cold and plugged sinuses. These symptoms are most likely to affect
a. his ability to listen to his Art History professor's lecture.
b. his enjoyment of the food at the university cafeteria.
c. his pain tolerence threshold.
d. his sense of balance.
Difficulty: 2
Question ID: 4.1-119
Page Ref: 133
Topic: Taste and Smell Go Hand in Hand
Skill: Applied
Objective: 4.7
Answer: b. his enjoyment of the food at the university cafeteria.
Rationale: Our sense of taste is strongly influenced by our sense of smell; with our nose plugged, we become much less able to detect different tastes.
% correct 65 a = 7 b = 65 c = 9 d = 17 *r* = .20

4.1-120. Bumps on the tongue called _____ contain numerous _____.
a. mechanoreceptors; papillae
b. papillae; taste buds
c. taste buds; mechanoreceptors
d. taste buds; papillae
Difficulty: 2
Question ID: 4.1-120
Page Ref: 133
Topic: Taste and Smell Go Hand in Hand
Skill: Factual
Objective: 4.7
Answer: b. papillae; taste buds

4.1-121. Martha's taste buds were permanently damaged when she accidentally swallowed some hydrochloric acid. Which of the following may occur?
a. Martha will have to rely more on her other senses to survive.
b. Martha's sense of smell is likely to remain prominent.
c. Martha may lose some of her enjoyment for life.
d. Martha will see very little impact on her everyday life.
Difficulty: 2
Question ID: 4.1-121
Page Ref: 133
Topic: Taste and Smell Go Hand in Hand
Skill: Applied
Objective: 4.7
Answer: c. Martha may lose some of her enjoyment for life.
Rationale: The senses of taste and smell are closely linked; with fewer taste buds, food will likely not taste as good, and life may be less enjoyable for Martha.

4.1-122. We are able to distinguish pleasant from disgusting smells and tastes because of the contribution of the _____, the emotional center of the brain.
a. brainstem
b. cerebellum
c. limbic system
d. thalamus
Difficulty: 3
Question ID: 4.1-122
Page Ref: 134
Topic: Perception of Smell and Taste
Skill: Applied/Conceptual
Objective: 4.7
Answer: c. limbic system
Rationale: The olfactory cortex and the gustatory cortex transmit information to parts of the limbic system, which is involved in our experience of emotion.

4.1-123. Research on human pheromones should have what impact on a person's decision to purchase pheromone-based products to make themselves more attractive and desirable to others?
   a. Human pheromones do not exist and pheromone-based products are therefore a waste of money.
   b. Human pheromones do exist and purchasing pheromone-based products is a useful way to influence others' interest in you.
   c. Human pheromones do exist but purchasing pheromone-based products is not an effective way to influence others' interest in you.
   d. Human pheromones do exist but the research on the usefulness of pheromone-based products is inconclusive.

Difficulty: 3
Question ID: 4.1-123
Page Ref: 134
Topic: Perception of Smell and Taste
Skill: Factual
Objective: 4.7
Answer: c. Human pheromones do exist but purchasing pheromone-based products is not an effective way to influence others' interest in you.

4.1-124. Marian is at a bar with her friends, wearing a new perfume she just bought. How likely is it that Eugene, who just walked in the other side of the bar, will be drawn to her new scent?
   a. Very likely, the pheromones in her perfume will definitely be detectable across the room.
   b. Very unlikely, typically transfer of pheromones only occurs at very close range.
   c. Very unlikely, typically there are too many different odors for our nose to differentiate.
   d. Very likely, human sexuality is greatly affected by the presence of pheromones.

Difficulty: 2
Question ID: 4.1-124
Page Ref: 134
Topic: Perception of Smell and Taste
Skill: Applied
Objective: 4.7
Answer: b. Very unlikely, typically transfer of pheromones only occurs at very close range.
Rationale: Though humans do produce pheromones, these are large molecules that would be unlikely to pass across any distance, or to affect our sexual behavior in a significant way.

4.1-125. Zedd is eating popcorn while watching a horror film. As more people are hacked and slashed to death, he discovers that his popcorn doesn't taste as good as it did at the beginning of the movie. What is the most likely explanation?
   a. There is a direct route between our olfactory and gustation centers.
   b. Olfactory and gustation information travels directly to the auditory cortex.
   c. Information from the olfactory and gustation receptors activate the limbic system.
   d. There should be no correlation between what one views and the taste of food.

Difficulty: 2
Question ID: 4.1-125
Page Ref: 134
Topic: Perception of Smell and Taste
Skill: Applied
Objective: 4.7
Answer: c. Information from the olfactory and gustation receptors activate the limbic system.
Rationale: The limbic system, which is important to our experience of emotion, is closely linked with the senses of taste and smell.

4.1-126. The somatosensory system responds to sensory information about
a. body position and equilibrium.
b. sound and vision.
c. taste and smell.
d. temperature and pressure.
Difficulty: 2
Question ID: 4.1-126
Page Ref: 134
Topic: Touch and Pain
Skill: Factual
Objective: 4.8
Answer: d. temperature and pressure.

4.1-127. Information about _____ travels to the spinal cord and brain more quickly than information about _____.
a. pain; touch
b. pain; vision
c. touch; pain
d. touch; vision
Difficulty: 3
Question ID: 4.1-127
Page Ref: 135
Topic: Touch and Pain
Skill: Factual
Objective: 4.8
Answer: c. touch; pain

4.1-128. Amanda is enjoying her favorite slushy. It has been a long time since she drank one, and she eagerly takes a giant sip. Soon after, she gets a terrible "brain freeze." What is Amanda actually experiencing?
a. Initial constriction followed by expansion of the blood vessels in the roof of her mouth.
b. Initial constriction followed by expansion of the blood vessels in her nasal passages.
c. Expansion followed by constriction of the blood vessels in her brain.
d. Expansion followed by constriction of the blood vessels in the roof of her mouth.
Difficulty: 2
Question ID: 4.1-128
Page Ref: 135
Topic: Touch and Pain
Skill: Applied
Objective: 4.8
Answer: a. Initial constriction followed by expansion of the blood vessels in the roof of her mouth.
Rationale: The authors explain that "brain freeze" doesn't affect the brain at all; the sensation results from a constriction of blood vessels in the roof of the mouth.

4.1-129. Why is it less painful to sleep on a bed of nails than to be stabbed in the finger with one?
a. The mechanoreceptors are only sensitive to light touch.
b. There are more free nerve endings in our fingers than our backs.
c. There are more mechanoreptors devoted to the back than the fingers.
d. There are fewer free nerve endings in our fingers than our backs.

Difficulty: 2
Question ID: 4.1-129
Page Ref: 135
Topic: Touch and Pain
Skill: Applied
Objective: 4.8
Answer: b. There are more free nerve endings in our fingers than our backs.
Rationale: We sense pain (as well as touch and temperature) with free nerve endings. There are many free nerve endings in our fingertips, and few in the middle of our backs.

4.1-130. The authors mentioned the interesting correlation between natural red hair and lower pain thresholds compared to persons with other natural hair colors. This is most likely to be due to the fact that
a. genetic factors that impact pain threshold are also somehow related to hair color.
b. natural hair color causes people to have an increased or decreased pain threshold.
c. natural pain thresholds cause people to be born with different natural colors of hair.
d. None of the above was mentioned by the authors as an explanation of the correlation between natural hair color and pain threshold.

Difficulty: 2
Question ID: 4.1-130
Page Ref: 135–136
Topic: Touch and Pain
Skill: Conceptual
Objective: 4.8
Answer: a. genetic factors that impact pain threshold are also somehow related to hair color.
Rationale: We don't know what causes red-haired people to tend toward lower pain thresholds and need to remember that correlation does not prove causation. The authors explain that there are probably genetic influences on pain tolerance that happen to be associated with genetic influences on red hair.

4.1-131. Who is likely to experience the most pain when given a shot by the nurse?
a. Stan, who has blond hair
b. Daisy, who has brunette hair
c. Mike, who has red hair
d. Lizzie, who has black hair

Difficulty: 2
Question ID: 4.1-131
Page Ref: 135–136
Topic: Touch and Pain
Skill: Applied
Objective: 4.8
Answer: c. Mike, who has red hair
Rationale: We don't know what causes red-haired people to tend toward lower pain thresholds and need to remember that correlation does not prove causation. The authors explain that there are probably genetic influences on pain tolerance that happen to be associated with genetic influences on red hair.

4.1-132. Which of the following seems to have an impact on the degree of pain a person might experience?
a. Cultural expectations and background
b. Emotional reactivity
c. Individual thresholds for pain
d. All of the above.
Difficulty: 1
Question ID: 4.1-132
Page Ref: 136
Topic: Touch and Pain
Skill: Factual
Objective: 4.8
Answer: d. All of the above.

4.1-133. Our sense of body position is known as
a. vestibular sense.
b. proprioception.
c. balance.
d. syncopy.
Difficulty: 2
Question ID: 4.1-133
Page Ref: 136
Topic: Body Position and Balance
Skill: Factual
Objective: 4.9
Answer: b. proprioception.

4.1-134. The name given to the sense of our body position is
a. gustation.
b. the kinesthetic sense.
c. somatosensory sense.
d. the vestibular sense.
Difficulty: 3
Question ID: 4.1-134
Page Ref: 136
Topic: Body Position and Balance
Skill: Factual
Objective: 4.9
Answer: b. the kinesthetic sense.

4.1-135. The ability to detect our balance and keep our balance as we move around in our daily life is known as
a. olfaction.
b. the proprioceptive sense.
c. somatosensory information.
d. the vestibular sense.
Difficulty: 2
Question ID: 4.1-135
Page Ref: 136
Topic: Body Position and Balance
Skill: Conceptual
Objective: 4.9
Answer: d. the vestibular sense.
Rationale: The vestibular sense is also known as our sense of equilibrium. It allows us to sense and maintain balance as we move about.

4.1-136. Our sense of equilibrium is called
a. vestibular sense.
b. proprioception.
c. balance.
d. kinesthesia.
Difficulty: 2
Question ID: 4.1-136
Page Ref: 136
Topic: Body Position and Balance
Skill: Factual
Objective: 4.9
Answer: a. vestibular sense.

4.1-137. Proprioceptors send sensory information to the somatosensory and motor cortexes from
a. inner and middle ears.
b. muscles and tendons.
c. olfactory and visual cortices.
d. temporal and parietal lobes.
Difficulty: 3
Question ID: 4.1-137
Page Ref: 136–137
Topic: Body Position and Balance
Skill: Factual
Objective: 4.9
Answer: b. muscles and tendons.

4.1-138. A disorder of the inner ear would be most likely to impact our
a. equilibrium.
b. hearing.
c. sense of pain.
d. sense of smell.
Difficulty: 3
Question ID: 4.1-138
Page Ref: 137
Topic: Body Position and Balance
Skill: Conceptual
Objective: 4.9
Answer: a. equilibrium.
Rationale: The vestibular sense, or sense of equilibrium, relies on the cochlea and semicircular canals, which are located in the inner ear.
% correct 48 a = 48 b = 48 c = 2 d = 2 *r* = .22

4.1-139. What discipline within psychology seeks to optimize the interaction between equipment and technology and our human sensory and perceptual abilities?
a. Cognitive neuroscience
b. Human factors
c. Industrial-organizational psychology
d. Social psychology
Difficulty: 2
Question ID: 4.1-139
Page Ref: 137
Topic: Body Position and Balance
Skill: Factual
Objective: 4.9
Answer: b. Human factors

4.1-140. Goals of human factors, or human engineering, include
a. decreasing physical fatigue.
b. increasing ease of use of technology.
c. increasing safety.
d. all of the above.
Difficulty: 1
Question ID: 4.1-140
Page Ref: 137
Topic: Body Position and Balance
Skill: Conceptual
Objective: 4.9
Answer: d. all of the above.
Rationale: Human factors psychology seeks to study and improve the interaction of humans with their physical environments. The improvements would be related to less fatigue, greater ease of use, and increased safety—domains of everyday life.

4.1-141. The old game show "Let's Make a Deal" offered contestants the choice between a visible prize, usually cash, or the prize hidden behind one of three doors. Which of the following abilities would be most useful to those contestants?
a. Precognition
b. Insight recognition
c. Telepathy
d. Clairvoyance
Difficulty: 3
Question ID: 4.1-141
Page Ref: 138
Topic: Extrasensory Perception (ESP): Fact or Fiction?
Skill: Applied
Objective: 4.10
Answer: d. Clairvoyance
Rationale: Clairvoyance is the ability to detect the presence of people or objects hidden from view. Psychologists generally agree that ESP phenomena such as this do not exist.

4.1-142. Perception of events outside the known channels of sensation is called
   a. olfaction.
   b. gustation.
   c. extrasensory perception.
   d. auditory perception.

Difficulty: 1
Question ID: 4.1-142
Page Ref: 138
Topic: Extrasensory Perception (ESP): Fact or Fiction?
Skill: Factual
Objective: 4.10
Answer: c. extrasensory perception.

4.1-143. Dallas is an ex-football player who now hosts his own sports talk show. He spends most of his time predicting who will win the game on Sunday. Which of the following abilities would be most useful to Dallas?
   a. Precognition
   b. Telepathy
   c. Clairvoyance
   d. Top-down processing

Difficulty: 2
Question ID: 4.1-143
Page Ref: 138
Topic: Extrasensory Perception (ESP): Fact or Fiction?
Skill: Applied
Objective: 4.10
Answer: a. Precognition
Rationale: Precognition is the ability to predict future events using paranormal means (outside traditional science). Psychologists generally agree that ESP phenomena such as this do not exist.

4.1-144. Which of the following is the best example of telepathy?
   a. Kelsey is excellent at choosing winning horses at the track.
   b. Kyle, a professional gambler, seems to always know when the other players are bluffing.
   c. Jason can almost always guess what his present is before opening the box.
   d. Brandon can sometimes make the papers on his desk move by just staring at them and "willing" them to move.

Difficulty: 2
Question ID: 4.1-144
Page Ref: 138
Topic: Extrasensory Perception (ESP): Fact or Fiction?
Skill: Applied
Objective: 4.10
Answer: b. Kyle, a professional gambler, seems to always know when the other players are bluffing.
Rationale: Telepathy is the ability to read other people's minds. Psychologists generally agree that ESP phenomena such as this do not exist.

4.1-145. A major impediment for proponents of ESP is the lack of ability of subsequent researchers to verify earlier positive findings for the phenomena. In scientific terms, we say this indicates a lack of
a. demand characteristics.
b. falsifiable research questions.
c. motivation.
d. replication.
Difficulty: 3
Question ID: 4.1-145
Page Ref: 138–139
Topic: Extrasensory Perception (ESP): Fact or Fiction?
Skill: Conceptual
Objective: 4.10
Answer: d. replication.
Rationale: Though a few studies reported support for ESP phenomena, subsequent studies did not. One of the principles of scientific thinking requires that other researchers can replicate (repeat) the findings. Findings of ESP phenomena have not been replicated.

4.1-146. Clara, the psychic, is addressing her audience prior to the show. She notices that two of the audience members are wearing military uniforms. After a brief conversation with one of the soldiers, she suggests to him that he may be experiencing some doubt over recent events that took place. Which process is Clara engaging in?
a. Cold reading
b. Precognition
c. Telepathy
d. Clairvoyance
Difficulty: 2
Question ID: 4.1-146
Page Ref: 139
Topic: Extrasensory Perception (ESP): Fact or Fiction?
Skill: Applied
Objective: 4.10
Answer: a. Cold reading
Rationale: Cold reading is the art of convincing people we've just met that we know all about them. Several techniques contribute to this phenomenon, such as looking for physical cues (e.g., military uniforms).

4.1-147. The most extreme example of separation between sensation and perception is
a. out-of-body experiences.
b. extrasensory perceptions.
c. near-death experiences.
d. hallucinations.
Difficulty: 1
Question ID: 4.1-147
Page Ref: 139
Topic: Hallucinations: Experiencing What Isn't There
Skill: Factual
Objective: 4.11
Answer: d. hallucinations.

4.1-148. The feeling of reliving an experience that is new is known as
a. out-of-body experience.
b. déjà vu.
c. hypnosis.
d. hallucination.

Difficulty: 1
Question ID: 4.1-148
Page Ref: 142
Topic: Déjà Vu Experiences
Skill: Factual
Objective: 4.11
Answer: b. déjà vu.

Fill-in-the-Blank

4.2-1. Our understanding of the information and events from the world around us comes from processes involving _____.

Difficulty: 3
Question ID: 4.2-1
Page Ref: 114
Topic: Introduction
Skill: Conceptual
Objective: 4.1
Answer: both sensation and perception

4.2-2. When Julius first entered and sat down in the classroom, he felt cold. However, 10 minutes later he no longer feels cold. This change is most likely the result of _____.

Difficulty: 3
Question ID: 4.2-2
Page Ref: 115
Topic: Sensation: Our Senses as Detectives
Skill: Applied/Conceptual
Objective: 4.1
Answer: sensory adaptation

4.2-3. Little Lily is taking her hearing test. She has her headphones on and is being presented with a series of tones to each of her ears. Although the tones are quite loud at first, they begin to get softer and softer. _____ theory attempts to predict how Lily will respond when she can't actually hear any more tones.

Difficulty: 2
Question ID: 4.2-3
Page Ref: 116
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: Signal detection

4.2-4. Dr. Washington is surprised when one of his students begins to sing in class. When questioned about his singing, the student responds that each of the words the professor had written on the board had a sound associated with them. Dr. Washington's student demonstrating the perceptual condition known as _____.

Difficulty: 2
Question ID: 4.2-4
Page Ref: 117
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: synesthesia

4.2-5. William is able to play his video game, listen to his iPod, and even think about what he is going to do this weekend. _____ allows William to multitask with relative ease.

Difficulty: 2
Question ID: 4.2-5
Page Ref: 117
Topic: Perception: When Our Senses Meet Our Minds
Skill: Applied
Objective: 4.2
Answer: Parallel processing

4.2-6. Carl is dreading his first day of algebra class. After talking with his friends, he discovers that his professor is known by all as "Dr. Unreasonable." As a consequence, Carl finds nearly everything about his first day of class miserable. Carl is probably relying too much on _____ processing.

Difficulty: 2
Question ID: 4.2-6
Page Ref: 117
Topic: Perception: When Our Senses Meet Our Minds
Skill: Applied
Objective: 4.2
Answer: top-down

4.2-7. Royce is listening to a debate involving the two candidates for state senator in his district. Prior to the debate, he had a strong opinion favoring one candidate over the other. As he listens to the debate he interprets each candidate's answers based on his own beliefs and expectations about them rather than listening and interpreting exactly what each said. Royce is engaging in _____.

Difficulty: 2
Question ID: 4.2-7
Page Ref: 117
Topic: Perception: When Our Senses Meet Our Minds
Skill: Applied
Objective: 4.2
Answer: top-down processing

4.2-8. Jacob has a favorite baseball cap. He has worn it now for several years. Initially the cap was a bright red, but it is now faded to almost pink. Although his friends are beginning to tease him about his "pink cap," he still sees it as red. Jacob is influenced by his _____.

Difficulty: 3
Question ID: 4.2-8
Page Ref: 117–118
Topic: Perception: When Our Senses Meet Our Minds
Skill: Applied
Objective: 4.2
Answer: perceptual set

4.2-9. Aimee is taking notes in her psychology class while her best friend is talking to her in her other ear. As she is reading over what she just wrote, Aimee notices something peculiar. Although she had written down most of what the professor had said, she had intermittently jotted down the words "Friday," "dance," and "boyfriend." Apparently, some of her friend's message got past her attentional _____.

Difficulty: 3
Question ID: 4.2-9
Page Ref: 118
Topic: Perception: When Our Senses Meet Our Minds
Skill: Applied
Objective: 4.2
Answer: filter

4.2-10. Zack is concentrating very hard on his psychology textbook. He has a big exam tomorrow and wants to do well. Even though nearly all of his attention is devoted to his reading, when his tattling brother mentions his name, Zack looks up. This represents an example of the _____.

Difficulty: 2
Question ID: 4.2-10
Page Ref: 118
Topic: Perception: When Our Senses Meet Our Minds
Skill: Applied
Objective: 4.2
Answer: cocktail party effect

4.2-11. Jim is a runner who jogs between 2 and 8 miles each morning. As he runs through his route he is exposed to millions of pieces of information; however, only a few ever capture his immediate attention. This ability to choose certain input while ignoring others is called _____.

Difficulty: 2
Question ID: 4.2-11
Page Ref: 118
Topic: Perception: When Our Senses Meet Our Minds
Skill: Conceptual
Objective: 4.2
Answer: selective attention

4.2-12. Mrs. Garrett is driving her children to the mall to see a movie. The children cannot agree on what movie they wish to see. The argument starts to get louder and louder but suddenly stops when Mrs. Garrett simply says the names of each of the three children. This shift in one's attention is known as _____.

Difficulty: 2
Question ID: 4.2-12
Page Ref: 118
Topic: Perception: When Our Senses Meet Our Minds
Skill: Conceptual
Objective: 4.2
Answer: the cocktail party effect

4.2-13. You have just watched a movie during which the message "Eat more popcorn" was presented subliminally. As you leave the theater, although you may have perceived the message, you are not likely to buy popcorn. The failure to alter your behavior lies in an overall failure of _____.

Difficulty: 3
Question ID: 4.2-13
Page Ref: 119
Topic: Subliminal Information Processing
Skill: Applied
Objective: 4.2
Answer: subliminal persuasion

4.2-14. The sensory receptors associated with vision are located in the _____.

Difficulty: 2
Question ID: 4.2-14
Page Ref: 121
Topic: The Eye: How We Represent the Visual Realm
Skill: Factual
Objective: 4.3
Answer: retina

4.2-15. The Jones's are experiencing a terrible storm. After several loud claps of thunder, followed by flashes of lightning, their lights go out. Although the family is initially "blind" in the dark, _____ allows their eyes to adjust in about 30 minutes.

Difficulty: 2
Question ID: 4.2-15
Page Ref: 122
Topic: The Eye: How We Represent the Visual Realm
Skill: Applied
Objective: 4.3
Answer: dark adaptation

4.2-16. Joyce is sitting at a basketball game when she notices one of her friends sitting across from her on the other side of the gym. The Gestalt principle of _____ explains Joyce's ability to see "only" her friend among all the fans at the game.

Difficulty: 2
Question ID: 4.2-16
Page Ref: 124
Topic: Visual Perception
Skill: Applied
Objective: 4.4
Answer: figure-ground

4.2-17. When Mr. Goetz writes on the chalkboard, he often leaves letters like a, e, or o uncompleted. However, his students are able to fill in the missing visual information thanks to the Gestalt principle of _____.

Difficulty: 2
Question ID: 4.2-17
Page Ref: 124
Topic: Visual Perception
Skill: Applied
Objective: 4.4
Answer: closure

4.2-18. La Vonna doodles a series of 20 stick figures—each in a slightly different position—on each of 20 separate pages in her pocket doodle journal. As she quickly flips the pages, it appears that the figure is dancing across the page. The perception of movement is called _____.

Difficulty: 3
Question ID: 4.2-18
Page Ref: 125
Topic: Visual Perception
Skill: Conceptual
Objective: 4.4
Answer: the phi phenomenon

4.2-19. As we look off in the distance, the lines on a road seem to shrink down to a point where it meets rather than staying parallel as we know it must. This is an example of the monocular cue of _____.

Difficulty: 3
Question ID: 4.2-19
Page Ref: 126
Topic: Visual Perception
Skill: Conceptual
Objective: 4.4
Answer: linear perspective

4.2-20. People who see fewer than all of the colors typically visible by humans are said to be _____.

Difficulty: 1
Question ID: 4.2-20
Page Ref: 126
Topic: Visual Perception
Skill: Factual
Objective: 4.4
Answer: color blind

4.2-21. The ability to perceive stimuli consistently despite variations in viewing conditions is called _____.

Difficulty: 2
Question ID: 4.2-21
Page Ref: 127
Topic: Visual Perception
Skill: Factual
Objective: 4.4
Answer: perceptual constancy

4.2-22. Six-year-old Nolan asks his father why the plane in the sky is moving so slowly, while the cars on the road seem to be going so fast. Nolan's confusion can be explained by _____.

Difficulty: 2
Question ID: 4.2-22
Page Ref: 127
Topic: Visual Perception
Skill: Applied
Objective: 4.4
Answer: motion parallax

4.2-23. The wave frequency of a sound is what we refer to as its _____.

Difficulty: 2
Question ID: 4.2-23
Page Ref: 129
Topic: Sound: Mechanical Vibration
Skill: Factual
Objective: 4.5
Answer: pitch

4.2-24. Spike is setting up speakers for a rock concert tonight. He is trying to decide how many speakers will be needed to provide the optimal auditory experience. Spike is most likely concerned with the _____ of sound.

Difficulty: 2
Question ID: 4.2-24
Page Ref: 129
Topic: Sound: Mechanical Vibration
Skill: Applied
Objective: 4.5
Answer: timbre

4.2-25. The _____ is the ear structure that converts vibrations into neural activity that can be interpreted by the brain.

Difficulty: 3
Question ID: 4.2-25
Page Ref: 130
Topic: How the Ear Works
Skill: Factual
Objective: 4.5
Answer: cochlea

4.2-26. _____ is the name given to the fifth, and most recently uncovered, taste.

Difficulty: 3
Question ID: 4.2-26
Page Ref: 133
Topic: Taste and Smell Go Hand in Hand
Skill: Factual
Objective: 4.7
Answer: umami

4.2-27. Many older cough syrups smelled bad and tasted worse. Companies today often add "fruit flavors" and smells to their medications to make them more palatable. This is an effective practice because _____ and smell work very closely together.

Difficulty: 2
Question ID: 4.2-27
Page Ref: 133
Topic: Taste and Smell Go Hand in Hand
Skill: Applied
Objective: 4.7
Answer: taste

4.2-28. Our senses of smell and taste converge in the brain at the _____, allowing us to experience complex tastes.

Difficulty: 3
Question ID: 4.2-28
Page Ref: 134
Topic: Perception of Smell and Taste
Skill: Factual
Objective: 4.7
Answer: orbitofrontal cortex

4.2-29. A slap to the back is perceived as less painful than a paper cut on one's finger because of _____ being located there.

Difficulty: 2
Question ID: 4.2-29
Page Ref: 135
Topic: Touch and Pain
Skill: Coceptual
Objective: 4.8
Answer: fewer nerve endings

4.2-30. Huey, Dewey, and Louie are playing soccer and each rolls his ankle. However, Huey is experiencing such pain that he isn't willing to put any weight on his leg while Dewey and Louie continue to play. This provides evidence that people have differing _____ for pain.

Difficulty: 1
Question ID: 4.2-30
Page Ref: 135
Topic: Touch and Pain
Skill: Applied
Objective: 4.8
Answer: thresholds

4.2-31. Jamaal notices that whenever he gets into a rental car it takes him several minutes to locate the gas tank. Such difficulties could be avoided if more car companies sought the input of professionals in _____.

Difficulty: 3
Question ID: 4.2-31
Page Ref: 137
Topic: Body Position and Balance
Skill: Conceptual
Objective: 4.9
Answer: human factors (or human engineering)

4.2-32. Laura and Jenn are twins. They tell countless stories about "knowing" what the other twin is thinking. The aspect of ESP they believe is occurring is _____.

Difficulty: 2
Question ID: 4.2-32
Page Ref: 138
Topic: Extrasensory Perception (ESP): Fact or Fiction?
Skill: Applied
Objective: 4.10
Answer: telepathy

4.2-33. A key impediment in scientifically demonstrating the existence of extrasensory perception is the lack of _____ of initial supportive findings.

Difficulty: 3
Question ID: 4.2-33
Page Ref: 139
Topic: Extrasensory Perception (ESP): Fact or Fiction?
Skill: Applied/Conceptual
Objective: 4.10
Answer: replication

Essay

4.3-1. Dr. McDonald is constructing a new robot that he hopes will mimic our processes of sensation and perception. Provide one example each of these two processes.

Difficulty: 3
Question ID: 4.3-1
Page Ref: 114
Topic: Introduction
Skill: Applied
Objective: 4.1
Answer: Provide an example of sensation and mention that sensation deals with the detection of energy in the physical world via one of our five sense organs.
Provide an example of perception and mention that perception is concerned with how our brain interprets the sensory information it receives.

4.3-2. Dr. Jacobi is a noted psychologist in the area of psychophysics. He has asked you to set up two different experiments, one on absolute thresholds, the other on the JND, or just noticeable difference. Provide one example of each concept.

Difficulty: 2
Question ID: 4.3-2
Page Ref: 115–116
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: Provide an example of absolute threshold, including some mention of the idea that absolute thresholds are concerned with the detection of physical stimuli and that the lowest level must be detected in 50 percent of trials.
Provide an example of the JND, including some mention of the idea that the JND is a measure of the smallest change in the intensity of a stimulus that we can detect.

4.3-3. General Pederson is concerned about his group of new pilots. They will soon be flying their first mission over enemy territory. He wants a way to predict how likely it is that they will "see" enemies that are not actually there, or perhaps even worse, fail to "see" an enemy that is present. Describe in brief how the General might use signal detection theory to predict the pilots' responses.

Difficulty: 3
Question ID: 4.3-3
Page Ref: 116
Topic: Sensation: Our Senses as Detectives
Skill: Applied
Objective: 4.1
Answer: Discuss the purpose behind signal detection theory (which is how we detect stimuli under uncertain conditions), bringing in mention of "false alarms."

4.3-4. Our perceptions of the world are influenced by many elements. Discuss in short why 6-year-old Ryan sees a young boy in the picture and can't see the old man, while his father sees the old man, but can't see the young boy.

Difficulty: 2
Question ID: 4.3-4
Page Ref: 117–118
Topic: Perception: When Our Senses Meet Our Minds
Skill: Applied
Objective: 4.2
Answer: Explain the concept of perceptual sets, or the idea that our current perception or state of mind is influenced by our expectations, such as age.

4.3-5. Pablo is attempting to study while talking to his girlfriend on the phone. Discuss how successful he is likely to be at focusing on his studies while listening to his girlfriend.

Difficulty: 2
Question ID: 4.3-5
Page Ref: 118
Topic: Perception: When Our Senses Meet Our Minds
Skill: Applied
Objective: 4.2
Answer: Discuss selective attention or the attempt to focus on just one of multiple stimuli present.
Discuss the idea that Pablo will be fairly successful, but will probably mix some of his girlfriend's messages in with his studies, due to an imperfect attentional filter.

4.3-6. Your friend Liza has just purchased a series of subliminal tapes on improving one's memory. Describe the difference between subliminal perception and subliminal persuasion, and offer your opinion on the likely impact of these tapes on Liza's memory.

Difficulty: 2
Question ID: 4.3-6
Page Ref: 118–119
Topic: Subliminal Information Processing
Skill: Applied
Objective: 4.2
Answer: Discuss the idea that subliminal perception is concerned with whether or not a stimulus was actually perceived, while subliminal persuasion focuses more on whether or not any behavioral change is likely to result from subliminal perception.
Discuss the idea that little or no improvement is likely to be observed, but Liza might report an improvement in her memory.

4.3-7. Your girlfriend Natasha has blue eyes, while your eyes are brown. Discuss briefly what accounts for these differences.

Difficulty: 2
Question ID: 4.3-7
Page Ref: 120–121
Topic: The Eye: How We Represent the Visual Realm
Skill: Applied
Objective: 4.3
Answer: Discuss the idea that while eye color is determined by only two pigments, melanin (brown) and lipochrome (yellowish-brown), it is the combination of those pigments that accounts for the wide range of eye colors across people. Natasha is likely to have very little of either pigment, while her boyfriend's eyes contain an abundance of melanin.

4.3-8. Describe the general process of how light enters the eye and is transmitted to the brain to be perceived.

Difficulty: 2
Question ID: 4.3-8
Page Ref: 120–122
Topic: The Eye: How We Represent the Visual Realm
Skill: Factual
Objective: 4.3
Answer: Answers will vary but should mention each of the following structures and the role each plays in visual perception: cornea, lens, iris, pupil, retina, fovea, and optic nerve.

- The light enters through the cornea, which is the outermost layer covering the eye, naturally curved to bend light onto the retina.
- It passes through the pupil, whose size is determined by muscles in the iris.
- The light is then refracted by the lens and focused on the tissue at the back of the eye. The lens will change its shape, or accommodate, to focus either on a distant or nearby object as is needed.
- The light is focused at the back of the eye onto the fovea, which is the center of the retina responsible for our sharpness of vision (acuity).
- The retina is the innermost layer of the eye and contains the sense receptor cells. It is responsible for changing the energy into neural impulses that can be transmitted via the optic nerve to the visual thalamus and eventually the primary visual cortex (V1) where the process of visual perception begins.

4.3-9. Discuss briefly why you might find your girlfriend more attractive prior to shining a flashlight into her eyes.

Difficulty: 2
Question ID: 4.3-9
Page Ref: 121
Topic: The Eye: How We Represent the Visual Realm
Skill: Applied
Objective: 4.3
Answer: Discuss the idea that we tend to favor faces where the pupil is more dilated.
Explain the fact that shining a bright light into her face should trigger her pupillary reflex, or the shrinking of the pupil.

4.3-10. You are trying to create a visual display with flashing lights. You want these lights to appear to be moving and read "Best Burger in Town." Describe the concept of the phi phenomenon and why it is very likely that people will indeed be able to read your display.

Difficulty: 3
Question ID: 4.3-10
Page Ref: 125
Topic: Visual Perception
Skill: Applied
Objective: 4.4
Answer: Discuss the phi phenomenon, or the idea that we perceive movement when there is none. Explain that at least part of perception involves one's brain filling in information or making guesses about incomplete information.

4.3-11. Describe how an artist might make use of the monocular cues for depth perception to create a three-dimensional feel in a two-dimensional painting.

Difficulty: 3
Question ID: 4.3-11
Page Ref: 126–127
Topic: Visual Perception
Skill: Applied
Objective: 4.4
Answer: Answers will vary but a full credit answer should discuss *at least three* of the cues listed below with a descriptive example for each.

- Relative size: The artist would depict the object that is further away as being smaller than the object that is nearer. Also needs to discuss specifically how this would be used.
- Texture gradient: The artist would depict the closer objects in greater detail than those further away. Also needs to discuss specifically how this would be used.
- Interposition: The artist would place certain objects in front of others to create the sense of depth because the front object would appear to be blocking the more distant object. Also needs to discuss specifically how this would be used.
- Linear perspective: The artist would draw outlines where the lines would converge in the distance. Also needs to discuss specifically how this would be used.
- Light and shadow: The artist would draw the picture so that realistic light and shadow are present. Also needs to discuss specifically how this would be used.

4.3-12. Artists primarily take advantage of our monocular cues when perceiving depth. Describe one way you might make two objects appear to be of different sizes in a drawing.

Difficulty: 3
Question ID: 4.3-12
Page Ref: 126–127
Topic: Visual Perception
Skill: Applied
Objective: 4.4
Answer: Discuss the concept of relative size, how figures that are farther away appear smaller.

4.3-13. Jerry is a middle-school student working on a communication system that only other adolescents can respond to. Briefly describe which aspect of sound he should focus on and why.

Difficulty: 2
Question ID: 4.3-13
Page Ref: 129
Topic: Sound: Mechanical Vibration
Skill: Applied
Objective: 4.5
Answer: Discuss the sound component known as pitch, or the frequency of wavelengths corresponding to sounds.
Explain the fact that as you age, you tend to lose the ability to hear higher frequency sounds, so Jerry's system should contain only sounds with a high frequency or pitch.

4.3-14. Explain why food tastes different when we have a cold versus when we do not.

Difficulty: 1
Question ID: 4.3-14
Page Ref: 133
Topic: Taste and Smell Go Hand in Hand
Skill: Applied
Objective: 4.7
Answer: Answers will vary but should include the following information for full credit.

- Smell and taste are chemical senses that work in tandem. Our sense of taste is impacted by our ability to detect odors from the food we are eating.
- There are only either five or six basic taste sensations, while there are thousands of different odors that humans are able to detect. This ability to detect various odors from food biases our interpretation of our eating experiences.
- When our nasal passages are blocked and odors are kept from reaching the sensory receptors and thus the brain where they are interpreted, we are only receiving the information from our taste buds.
- However, when our nasal passages are open, we get additional information that helps us to make the distinction between different foods.

4.3-15. Your friend Patrick has just opened up a new restaurant and can't wait to start serving customers. Unfortunately, a fish market opened right beside him, and the smells are permeating his restaurant. Provide one reason why Patrick might want to relocate.

Difficulty: 3
Question ID: 4.3-15
Page Ref: 133–134
Topic: Perception of Smell and Taste
Skill: Applied
Objective: 4.7
Answer: Discuss the idea that taste and smell are the two senses that work most closely together, and although the food may taste good, the bad smell of the fish market is likely to affect his customers' enjoyment of their food.

4.3-16. Provide an example of a project or problem that a psychologist working in the field of ergonomics might confront.

Difficulty: 2
Question ID: 4.3-16
Page Ref: 137
Topic: Body Position and Balance
Skill: Applied
Objective: 4.9
Answer: Discuss the field of human factors, or the ease with which humans can operate new technology.
Discuss a new device that may prove difficult to understand or operate (e.g., multi-media cell phone).

4.3-17. As a newly commissioned psychic, discuss two of the "tricks" you might use to persuade your audience that your skills are legitimate.

Difficulty: 3
Question ID: 4.3-17
Page Ref: 138–139
Topic: Extrasensory Perception (ESP): Fact or Fiction?
Skill: Applied
Objective: 4.10
Answer: Discuss the practice of making predictions that contain multiple end points, or predictions that are vague or general enough that some part of it is likely to come true. Discuss the practice of making "cold reads," or inferences based on observations of your audience members, either visually or via a series of leading questions.

Critical Thinking Short Answer

4.4-1. Discuss the evidence for vision being the most heavily studied sense.

Difficulty: 2
Question ID: 4.4-1
Page Ref: 120–128
Topic: Seeing: The Visual System
Skill: Conceptual
Objective: 4.3
Answer: Answers will vary but should contain *at least three* of the following points with supporting discussion to earn full credit.

- Light is fundamental to our biology and culture. Without vision, we couldn't sense or perceive much of anything about light other than the heat produced.
- We would miss most of the experiences that occur around us; think of all of the times that we've told someone "watch me/this," "look over here," "are you watching Mommy/Daddy?"
- The Gestalt principles and the majority of the illusions mentioned in the text are applicable to vision (and in some instances hearing).
- Also, dizziness and nausea result when our vestibular and visual inputs are not synchronized.

4.4-2. Discuss how the critical thinking principles of falsifiability and replicability enter into the scientific evaluation for claims of extrasensory perception (ESP).

Difficulty: 3
Question ID: 4.4-2
Page Ref: 138–139
Topic: Extrasensory Perception (ESP): Fact or Fiction?
Skill: Conceptual
Objective: 4.10
Answer: Answers will vary but should include the general points mentioned below for full credit.

- Falsifiability: Research theory can be shown to be incorrect (as well as correct). The student needs to explain why this is often/sometimes lacking with ESP claims. Also, a student should describe why a theory that is not falsifiable is meaningless in the realm of science.
- Replicability: Research results need to be verified or repeated by others. In science, it is paramount that other investigators using the same procedures but working in different places with different participants can repeat the same pattern of findings as the original researchers. The student needs to explain what this means more generally in the realm of ESP claims.