

Chapter 4 - Sensation and Perception  
Study Guide

Complete for 10 points extra credit. Must be stapled at the end of your chapter notes.

- 1) How are sensation and perception different?
- 2) Different senses give us different sensations mainly because
  - A) they involve different stimuli.
  - B) they have different intensities.
  - C) they travel on different neural pathways.
  - D) we have different memories associated with them.
  - E) they activate different sensory regions of the brain.
- 3) Which one refers to the least amount of stimulation that your perceptual system can detect about half of the time?
  - A) the action threshold
  - B) the stimulus threshold
  - C) the absolute threshold
  - D) the difference threshold
  - E) Fechner's law
- 4) Which of the following best illustrates the idea that perception is not an exact internal copy of the world, but also based on one's experience in the world?
  - A) bottom-up processing
  - B) the sound of a familiar tune
  - C) jumping in response to a pinprick
  - D) the Ponzo illusion
  - E) a bright light
- 5) When someone tells you that you have been singing the wrong words to a song and actually tells you what the correct words are, the next time that you hear the song you are likely to hear the correct words. What has your friend created for you?
- 6) Distinguish between the two senses of body position and movement.
- 7) Explain difference thresholds and Weber's law.
- 8) The wavelength of light causes sensations of \_\_\_\_\_, while the intensity of light causes sensations of \_\_\_\_\_.
  - A) dim light motion; shape
  - B) primary colors; secondary colors
  - C) bright light;
  - D) color; brightness
  - E) depth; color
- 9) Which sense makes use of electromagnetic energy?
  - A) taste
  - B) pain
  - C) vision
  - D) olfaction
  - E) hearing
- 10) What is the minimal amount of stimulus change that is still noticeable half the time?
- 11) Which of the following would involve sensory adaptation?
  - A) The water in a pool seems warmer after you have been in for a while than it did when you first jumped in.
  - B) You no longer pay attention to the feel of the clothes on your body.
  - C) The flavor of a spicy salsa on your taco seems hot by comparison with the blandness of the sour cream.
  - D) You prefer the feel of silk to the feel of velvet.
  - E) You are unaware of a priming stimulus flashed on the screen at 1/100 of a second.
- 12) Briefly explain how the gate-control theory of pain explains how pain messages occur.
- 13) Briefly explain the difference between nerve and conduction deafness.
- 14) The visual cliff created by experimenters Gibson and Walk demonstrates children's ability to detect what aspect?

- 15) Which of the following is an example of the kind of information that top-down processing contributes to perception?
- looking for a friend's face in the crowd
  - constructing an object from memory
  - feeling a pinprick
  - having to wait for your eyes to adjust to the dark in a theater
  - hearing a painfully loud noise
- 16) The sensory pathways carry information
- from the brain to the muscles.
  - from the brain to the sense organs.
  - from the sense organs to the brain.
  - from the muscles to the brain.
  - from the central nervous system to the autonomic nervous system.
- 17) What do all of these forms of sensation have in common: vision, hearing, taste, smell, hearing, pain, equilibrium, and body position?
- They all involve location of stimulation in three-dimensional space.
  - They all involve higher-order perception.
  - They all arise from stimulation that comes only from outside the body.
  - They all involve waves having frequency and amplitude.
  - They all are conveyed to the brain in the form of nerve signals.
- 18) The faces/vase image (Fig 4.17A) illustrates
- closure.
  - attention as a gateway to consciousness.
  - similarity.
  - interposition.
  - figure and ground.
- 19) When two close friends are talking, other people may not be able to follow their conversation because it has many gaps, which the friends can mentally fill in from their shared experience. Which Gestalt principle is illustrated by the friends' ability to fill in these conversational gaps?
- proximity
  - similarity
  - common fate
  - ambiguity
  - closure
- 20) How is a very sensitive sense of taste (supertaster) adaptive?
- 21) How would an individual detect a negative after image?
- 22) What theory of sensation helps us predict when we will detect a weak signal?
- 23) The eyes have two distinct types of photoreceptors: the rods, which detect \_\_\_\_\_, and the cones, which detect \_\_\_\_\_.
- color; brightness
  - bright light; dim light
  - stimuli in consciousness; unconscious stimuli
  - motion; shape
  - low intensity light; wavelengths corresponding to colors
- 24) The frequency theory best explains \_\_\_\_\_ sounds, while the place theory explains \_\_\_\_\_ sounds.
- tonal; atonal
  - simple; complex
  - low-pitched; high-pitched
  - loud; soft
  - pitch; timbre
- 25) When you hear the sound of a tree falling in the forest, the brain has received nothing but
- the sense of air rushing by you.
  - the vibration of the eardrums.
  - sound waves traveling through the sensory pathways.
  - neural activity in the sensory pathways.
  - sound waves from the air.
- 26) What is the only sense that does not travel through the thalamus?
- 27) Which of the following is a process that adds meaning to incoming information obtained by the sensory systems?
- sensory adaptation
  - perception
  - stimulation
  - sensation
  - detection