

The receptors for this sense are located in the \_\_\_\_\_ and \_\_\_\_\_ of the inner ear.

## PROGRESS TEST 1

### Multiple-Choice Questions

Circle your answers to the following questions and check them with the answers beginning on page 146. If your answer is incorrect, read the explanation for why it is correct and then consult the appropriate pages of the text (in parentheses following the correct answer).

- Which of the following is true?
  - The absolute threshold for any stimulus is a constant.
  - The absolute threshold for any stimulus varies somewhat.
  - The absolute threshold is defined as the minimum amount of stimulation necessary for a stimulus to be detected 75 percent of the time.
  - The absolute threshold is defined as the minimum amount of stimulation necessary for a stimulus to be detected 60 percent of the time.
- Nearsightedness is a condition in which the:
  - lens has become inflexible.
  - lens is too thin.
  - image falls behind the retina.
  - image falls in front of the retina.
- If you can just notice the difference between 10- and 11-pound weights, which of the following weights could you differentiate from a 100-pound weight?
  - 101-pound weight
  - 105-pound weight
  - 110-pound weight
  - There is no basis for prediction.
- A decrease in sensory responsiveness accompanying an unchanging stimulus is called:
  - sensory fatigue.
  - accommodation.
  - sensory adaptation.
  - sensory interaction.
- The size of the pupil is controlled by the:
  - lens.
  - retina.
  - cornea.
  - iris.
- The process by which the lens changes its curvature is:
  - accommodation.
  - sensory adaptation.
  - feature detection.
  - transduction.
- The receptor of the eye that functions best in dim light is the:
  - fovea.
  - cone
  - bipolar cell.
  - rod.
- The Young-Helmholtz theory proposes that:
  - there are three different types of color-sensitive cones.
  - retinal cells are excited by one color and inhibited by its complementary color.
  - there are four different types of cones.
  - rod, not cone, vision accounts for our ability to detect fine visual detail.
- Frequency is to pitch as \_\_\_\_\_ is to \_\_\_\_\_.
  - wavelength; loudness
  - amplitude; loudness
  - wavelength; intensity
  - amplitude; intensity
- Our experience of pain when we are injured depends on:
  - our biological make-up and the type of injury we have sustained.
  - how well medical personnel deal with our injury.
  - our physiology, experiences and attention, and surrounding culture.
  - what our culture allows us to express in terms of feelings of pain.
- The place theory of pitch perception cannot account for how we hear:
  - low-pitched sounds.
  - middle-pitched sounds.
  - high-pitched sounds.
  - chords (three or more pitches simultaneously).
- The hearing losses that occur with age are especially pronounced for:
  - low-pitched sounds.
  - middle-pitched sounds.
  - high-pitched sounds.
  - chords.

13. According to the gate-control theory, a way to alleviate chronic pain would be to stimulate the \_\_\_\_\_ nerve fibers that \_\_\_\_\_ the spinal gate.
- a. small; open                      c. large; open  
b. small; close                      d. large; close
14. The transduction of light energy into nerve impulses takes place in the:
- a. iris.                                      c. lens.  
b. retina.                                  d. optic nerve.
15. The brain breaks vision into separate dimensions such as color, depth, movement, and form, and works on each aspect simultaneously. This is called:
- a. feature detection.  
b. parallel processing.  
c. accommodation.  
d. opponent processing.
16. Kinesthesia involves:
- a. the bones of the middle ear.  
b. information from the muscles, tendons, and joints.  
c. membranes within the cochlea.  
d. the body's sense of balance.
17. One light may appear reddish and another greenish if they differ in:
- a. wavelength.                          c. opponent processes.  
b. amplitude.                            d. brightness.
18. Which of the following explains why a rose appears equally red in bright and dim light?
- a. the Young-Helmholtz theory  
b. the opponent-process theory  
c. feature detection  
d. color constancy
19. Which of the following is an example of sensory adaptation?
- a. finding the cold water of a swimming pool warmer after you have been in it for a while  
b. developing an increased sensitivity to salt the more you use it in foods  
c. becoming very irritated at the continuing sound of a dripping faucet  
d. All of the above are examples.
20. Most color-deficient people will probably:
- a. lack functioning red- or green-sensitive cones.  
b. see the world in only black and white.  
c. also suffer from poor vision.  
d. have above-average vision to compensate for the deficit.

### Matching Items

Match each of the structures with its function or description.

#### Structures or Conditions

- \_\_\_\_\_ 1. lens  
\_\_\_\_\_ 2. iris  
\_\_\_\_\_ 3. pupil  
\_\_\_\_\_ 4. rods  
\_\_\_\_\_ 5. cones  
\_\_\_\_\_ 6. middle ear  
\_\_\_\_\_ 7. inner ear  
\_\_\_\_\_ 8. large nerve fiber  
\_\_\_\_\_ 9. small nerve fiber  
\_\_\_\_\_ 10. semicircular canals  
\_\_\_\_\_ 11. sensors in joints  
\_\_\_\_\_ 12. acuity  
\_\_\_\_\_ 13. farsightedness  
\_\_\_\_\_ 14. nearsightedness

#### Functions or Descriptions

- a. amplifies sounds  
b. closes pain gate  
c. vestibular sense  
d. controls pupil  
e. accommodation  
f. eyeball is too short  
g. opens pain gate  
h. admits light  
i. eyeball is too long  
j. vision in dim light  
k. transduction of sound  
l. sharpness of vision  
m. kinesthesia  
n. color vision