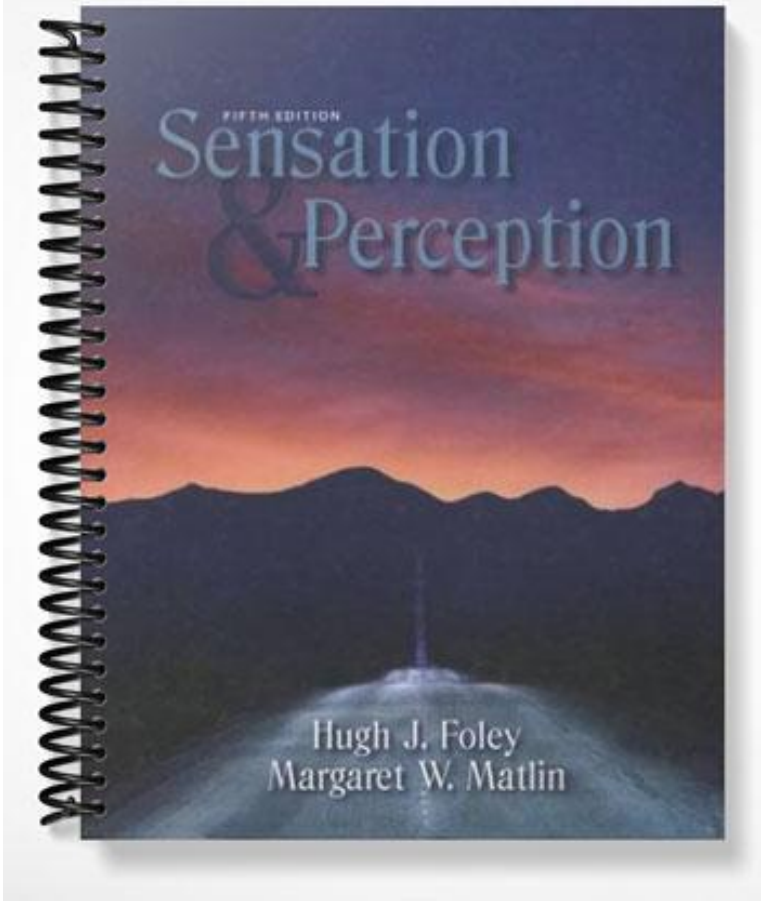
TEST BANK


FIFTH EDITION
Sensation & Perception
Hugh J. Foley
Margaret W. Matlin

Instructor's Manual and Test Bank

for

Foley and Matlin

Sensation and Perception

Fifth Edition

prepared by

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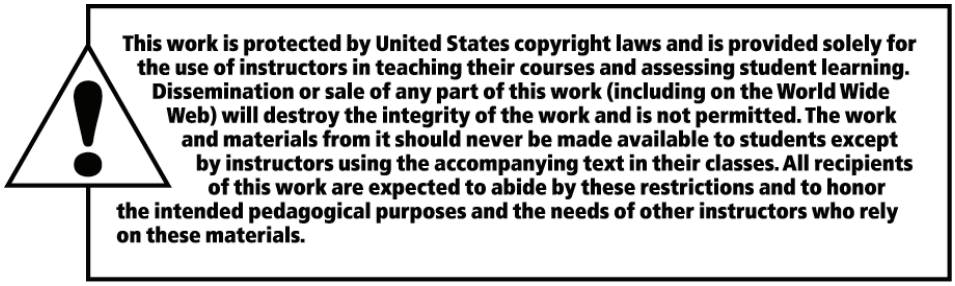

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Contents

CHAPTER ONE:
Introduction

1. While _____ refers to the functioning of our sensory systems, _____ involves the interpretation of that input, giving it meaning and organization.
    A. sensation; perception
    B. perception; sensation
    C. cognition; sensation
    D. cognition; perception

    Answer: **A**.
    Page Ref: **2**

2. The branch of philosophy that deals with how knowledge is acquired (including knowledge about the properties of objects) is called:
    A. empiricism
    B. behaviorism
    C. nativism
    D. epistemology

    Answer: **D.**
    Page Ref: **2**

3. Which of the following questions would a philosopher concerned with epistemology most likely ask?
    A. What is the meaning of life?
    B. Who am I?
    C. Why do we do what we do?
    D. How do we know what we know?

    Answer: **D.**
    Page Ref: **2**

4. During what time period did behaviorism flourish in the United States?
    A. before 1900
    B. between 1900 and 1930
    C. between 1930 and 1960
    D. 1960-today

    Answer: **C.**
    Page Ref: **6**

5. Which of the following areas of perceptual research was **LEAST** influenced by behaviorism's bias against the study of cognition?
   A. music perception
   B. psychophysics
   C. speech perception
   D. visual word recognition

   Answer: **B.**
   Page Ref: **6**

6. Which of the following people is associated with the Empiricist Approach?
   A. William James
   B. David Marr
   C. George Berkeley
   D. both A and C

   Answer: **D.**
   Page Ref: **6**

7. The approach that emphasizes that sensory information alone is insufficient for our rich perceptual experiences is the _____ approach.
   A. behaviorist
   B. empiricist
   C. Gibsonian
   D. Gestalt

   Answer: **B.**
   Page Ref: **6**

8. Who described an infant's perception of the word as a "blooming, buzzing confusion"?
   A. James Gibson
   B. George Berkeley
   C. William James
   D. David Marr

   Answer: **C.**
   Page Ref: **6**

9. In the nature-nurture debate, empiricism stresses:
   A. nature
   B. nurture
   C. both nature and nurture
   D. neither nature nor nurture

   Answer: **B.**
   Page Ref: **7**

10. In the nature-nurture debate, nativism stresses:
   A. nature
   B. nurture
   C. both nature and nurture
   D. neither nature nor nurture

   Answer: **A.**
   Page Ref: **7**

11. The approach that emphasizes that we perceive objects as well-organized, whole structures rather than as separate, isolated parts is the _____ approach.
   A. empiricist
   B. Gibsonian
   C. Gestalt
   D. computational

   Answer: **C.**
   Page Ref: **7**

12. The group of psychologists that sought to explain perception by focusing on individual elements was the:
   A. structuralists
   B. nativists
   C. behaviorists
   D. empiricists

   Answer: **A.**
   Page Ref: **7**

13. The empiricist approach emphasizes _____ perception. The Gestalt approach emphasizes _____ perception.
    A. indirect; indirect
    B. indirect; direct
    C. direct; indirect
    D. direct; direct

    Answer: **A.**
    Page Ref: **7**

14. The notion that sensory information is sufficient is _____ perception. The notion that sensory information is insufficient is _____ perception.
    A. holistic; traditional
    B. indirect; direct
    C. traditional; holistic
    D. direct; indirect

    Answer: **D.**
    Page Ref: **7**

15. The major proponent of direct perception was:
    A. James Gibson
    B. George Berkeley
    C. William James
    D. David Marr

    Answer: **A.**
    Page Ref: **7**

16. The approach that emphasizes that our perceptions are rich and elaborate because the stimuli in our environment are rich with information is the _____ approach.
    A. empiricist
    B. computational
    C. information-processing
    D. Gibsonian

    Answer: **D.**
    Page Ref: **7**

17. Because of its emphasis on the important role of memory, the information-processing approach is most similar to which other approach?
    A. computational
    B. behaviorist
    C. empiricist
    D. Gibsonian

    Answer: **C.**
    Page Ref: **8**

18. In the _____ approach, researchers identify psychological processes and connect them together by proposing specific patterns of information flow.
    A. computational
    B. information-processing
    C. Gibsonian
    D. Gestalt

    Answer: **B.**
    Page Ref: **8**

19. Which of the following statements about the Information-Processing Approach is **FALSE**?
    A. It emphasizes the importance of processing beyond the sensory level.
    B. It specifies that processes are innate.
    C. It focuses on the interconnections among processes.
    D. none of the above

    Answer: **B.**
    Page Ref: **8**

20. David Marr is associated with which approach?
    A. Gestalt
    B. empiricist
    C. computational
    D. Gibsonian

    Answer: **C.**
    Page Ref: **8**

21. The approach that involves the development of mathematical models to explain the processes underlying perception is the _____ approach.
    A. computational
    B. Gestalt
    C. behaviorist
    D. empiricist

    Answer: **A.**
    Page Ref: **8**

22. Which of the following statements is **FALSE**?
    A. Each sensory system adapts to a stimulus that is presented continuously.
    B. Each sensory system is independent and does not interact with the others.
    C. Our sensory systems are well adapted to humans' specific needs.
    D. Each sensory system serves to detect change in the world.

    Answer: **B.**
    Page Ref: **9**

23. "Data-driven processing" is also known as:
    A. bottom-up processing
    B. empirical processing
    C. conceptually driven processing
    D. top-down processing

    Answer: **A.**
    Page Ref: **10**

24. The Gibsonian Approach states that we:
    A. rely most heavily on top-down processing
    B. rely most heavily on bottom-up processing
    C. rely on top-down processing and bottom-up processing equally
    D. do not rely on either top-down or bottom-up processing

    Answer: **B.**
    Page Ref: **10**

25. The fact that our previous knowledge, expectations, and context can influence our perceptions illustrates that we use:
    A. direct processing
    B. indirect processing
    C. bottom-up processing
    D. top-down processing

    Answer: **D.**
    Page Ref: **11**

26. Conceptually-driven processing is also known as _____. Data-driven processing is also known as _____.
    (pp. 10 & 11)
    A. direct processing; indirect processing
    B. indirect processing; direct processing
    C. bottom-up processing; top-down processing
    D. top-down processing; bottom-up processing

    Answer: **D.**
    Page Ref: **10, 11**

CHAPTER TWO
Research Methods

1. Who coined the term "psychophysics"?
    A. Weber
    B. Fechner
    C. Ebbinghaus
    D. Stevens

    Answer: **B.**
    Page Ref: **16**

2. The study of the relationship between properties of physical stimuli and psychological reactions to those properties is called _____?
    A. perception
    B. sensation
    C. psychophysics
    D. cognitive psychology

    Answer: **C.**
    Page Ref: **16**

3. The absolute threshold is defined as the smallest intensity required for the stimulus to be reported:
    A. 10% of the time
    B. 50% of the time
    C. 95% of the time
    D. 100% of the time

    Answer: **B.**
    Page Ref: **19**

4. Which of the following is **NOT** a method of determining absolute thresholds described in "The Elements of Psychophysics"?
    A. the method of sensitivity
    B. the method of adjustment
    C. the method of limits
    D. the method of constant stimuli

    Answer: **A.**
    Page Ref: **19**

5. In the _____, the experimenter presents a stimulus that is clearly noticeable and then presents increasingly weaker stimuli until the participant cannot detect it.
    A. method of sensitivity
    B. method of adjustment
    C. method of limits
    D. method of constant stimuli

    Answer: **C.**
    Page Ref: **20**

6. Katie is interested in how much lemon juice needs to be added to water for her friend Paul to detect it. She knows that a glass with only water (i.e., no lemon juice) will clearly be below threshold. She gives Paul this solution followed by 5 other solutions with an increasing amount of lemon juice. Paul reports being able to taste the lemon flavor at solution #4. Katie is employing the:
    A. method of sensitivity
    B. method of adjustment
    C. method of limits
    D. method of constant stimuli

    Answer: **C.**
    Page Ref: **20**

7. In using the method of limits to determine absolute thresholds, an experimenter may begin with a noise that is below threshold and then sequentially increase the intensity until the listener says, "I hear it!" This sequence would be:
    A. a descending series of trials
    B. an ascending series of trials
    C. a method of adjustment
    D. a random series of trials

    Answer: **B.**
    Page Ref: **20**

8. In performing a listening task, Tracey incorrectly reports hearing a tone when none was present. When asked why she did that, she said, "I know I heard something on the first 7 trials, so surely there was a tone on trial 8, too.

i. Tracey has made an:
   A. error of extinction
   B. error of anticipation
   C. error of adjustment
   D. error of habituation

Answer: **D.**
Page Ref: **20**

ii. In the above experiment, Tracey's response is a:
   A. correct rejection
   B. false alarm
   C. hit
   D. miss

Answer: **B.**
Page Ref: **23**

iii. The researcher is using:
   A. a descending series of trials
   B. an ascending series of trials
   C. a constant series of trials
   D. an alternating series of trials

Answer: **A.**
Page Ref: **20**

9. An observer commits an error of anticipation when he answers incorrectly because:
   A. he responds "Yes, I saw it!" just as he has been responding for several trials
   B. he responds "No, I didn't see it!" just as he has been responding for several trials
   C. he responds, "Yes, I saw it" because he has been responding "No, I didn't see it!" for several trials
   D. both A and B

Answer: **C.**
Page Ref: **20**

10. Which of the following is **NOT** characteristic of the method of adjustment?
    A. The experimenter adjusts the intensity of the stimulus.
    B. Psychophysicists use it less than other methods of determining thresholds.
    C. It is used for stimuli that are continuously adjustable.
    D. It is used for pretesting stimuli for other psychophysics experiments.

    Answer: **A.**
    Page Ref: **20, 21**

11. Which method of determining absolute thresholds is very time-consuming and utilizes pre-tested stimuli?
    A. the method of sensitivity
    B. the method of adjustment
    C. the method of limits
    D. the method of constant stimuli

    Answer: **D.**
    Page Ref: **21**

12. When using the method of constant stimuli, how are stimuli presented?
    A. in random order
    B. from the weakest stimulus to the strongest stimulus
    C. from the strongest stimulus to the weakest stimulus
    D. either B or C

    Answer: **A.**
    Page Ref: **21**

13. Cara has just finished eating a huge piece of sweet chocolate cake. She is then asked to participate in a taste-test to determine whether she can detect small amounts of sugar added to water. She is likely to have:
    A. a low threshold, and thus a low sensitivity
    B. a low threshold, and thus a high sensitivity
    C. a high threshold, and thus a high sensitivity
    D. a high threshold, and thus a low sensitivity

    Answer: **D.**
    Page Ref: **21**

14. If an observer has a low threshold for a smell:
    A. only a small amount of the smell must be present to be detected
    B. a large amount of the smell must be present to be detected
    C. the smell can only be detected in small amounts
    D. the smell can only be detected in large amounts

    Answer: **A.**
    Page Ref: **21**

15. On a trial in which only noise is present and no target stimulus, John responds, "No, I didn't hear anything." John has made:
    A. a correct rejection
    B. a false alarm
    C. a hit
    D. a miss

    Answer: **A.**
    Page Ref: **23**

16. If an observer becomes distracted during a detection task and fails to notice a stimulus that appears, this is:
    A. a correct rejection
    B. a false alarm
    C. a hit
    D. a miss

    Answer: **D.**
    Page Ref: **23**

17. Kyle performs a detection task in which he is asked to determine whether or not the letter T appears on a checkered screen. The table below shows the possible outcomes based on his response and whether the letter was actually present or absent.

	T was present in stimulus	T was absent in stimulus
"I saw a T"	A	C
"I didn't see a T"	B	D

i. Which cell represents a false alarm?

A. A
B. B
C. C
D. D

Answer: **C.**
Page Ref: **23**

ii. Which cells represent correct detections?

A. A and B
B. A and C
C. A and D
D. B and D

Answer: **C.**
Page Ref: **23**

iii. Which cell represents a correct rejection?

A. A
B. B
C. C
D. D

Answer: **D.**
Page Ref: **23**

iv. What does cell A represent?

A. a miss
B. a correct rejection
C. a hit
D. a false alarm

Answer: **C.**
Page Ref: **23**

v. What does cell B represent?
   A. a miss
   B. a correct rejection
   C. a hit
   D. a false alarm

Answer: **A.**
Page Ref: **23**

18. In Signal Detection Theory, d' represents:
   A. the observer's sensitivity to the stimulus
   B. the proportion of trials that were incorrect
   C. the degree of noise present in the task
   D. the observer's decision-making strategy or criterion

Answer: **A.**
Page Ref: **24**

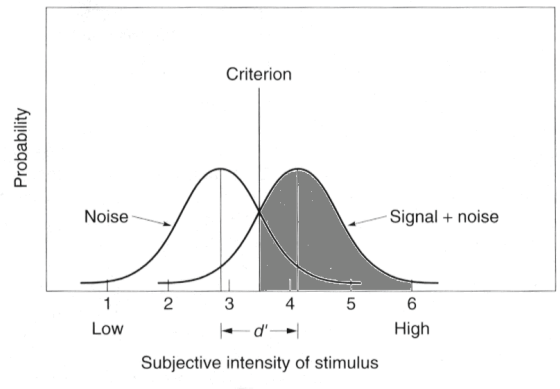
19. After Peter participates in a detection task, the proportion of hits is calculated to be .75. What proportion of trials were false alarms? A. .25
   B. .50
   C. .75
   D. can't tell from the information provided

Answer: **D.**
Page Ref: **25**

20. After Paul participates in a detection task, the proportion of false alarms is calculated to be .10. What proportion of trials were correct rejections?
   A. .10
   B. .25
   C. .90
   D. can't tell from the information provided

Answer: **C.**
Page Ref: **25**

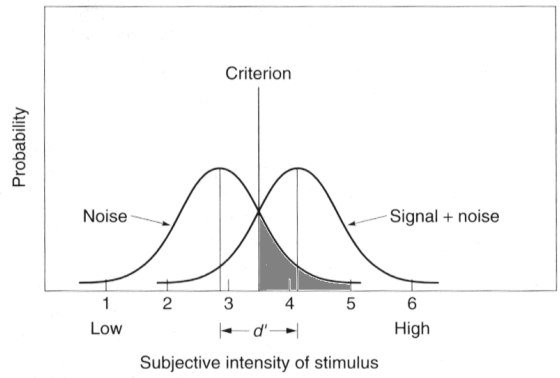
21. The shaded region of the figure below represents:



A. the proportion of correct rejections
B. the proportion of false alarms
C. the proportion of hits
D. the proportion of misses

Answer: **C.**
Page Ref: **25**

22. The shaded region of the figure below represents:



A. the proportion of correct rejections
B. the proportion of false alarms
C. the proportion of hits
D. the proportion of misses

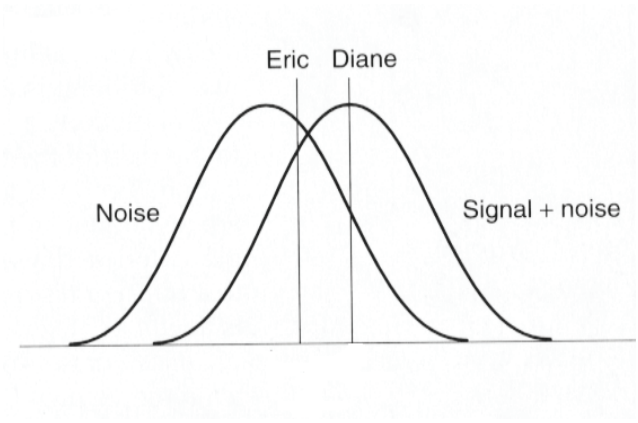
Answer: **B.**
Page Ref: **25**

23. Frank, Gerald, Helen, and Jacob participate in a detection task. From the measures of d' that were calculated, which participant has the greatest sensitivity?

A. Frank: d' = .1
B. Gerald: d' = .6
C. Helen: d' = .4
D. Jacob: d' = .2

Answer: **B.**
Page Ref: **26**

24. The distributions below show the results from a signal detection task that Eric and Diane participated in.



i. Which participant has the greatest sensitivity?

A. Eric
B . Diane
C. they are equally sensitive
D. can't tell from the information provided

Answer: **C.**
Page Ref: **26**

ii. Which participant is more conservative?

A. Eric
B . Diane
C. they are equally conservative
D. can't tell from the information provided

Answer: **B.**
Page Ref: **26**

iii. Which participant will make more hits?

A. Eric
B . Diane
C. they are equally conservative
D. can't tell from the information provided

Answer: **A.**
Page Ref: **26**

iv. Which participant will make more false alarms?

A. Eric
B . Diane
C. they are equally conservative
D. can't tell from the information provided

Answer: **A.**
Page Ref: **26**

25. The results from a signal detection experiment are often plotted in:

A. a scatterplot
B. a histogram
C. a boxplot
D. an ROC curve

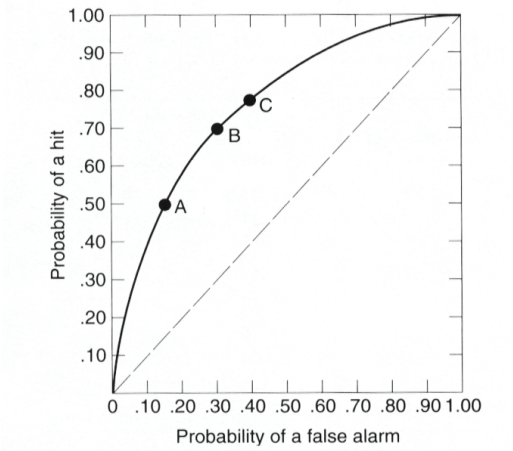
Answer: **D.**
Page Ref: **26**

26. In an ROC curve, the left-hand portion represents a _____ criterion and the right-hand portion represents a _____ criterion.

A. conservative; conservative
B. conservative; liberal
C. liberal; liberal
D. liberal; conservative

Answer: **B.**
Page Ref: **27**

27. The ROC curve below presents the results from a signal detection experiment that participants A, B, and C took part in.



i. Which participant is the most liberal?

A. participant A
B. participant B
C. participant C
D. they are equally liberal because they fall on the same curve

Answer: **C.**
Page Ref: **27**

ii. Which participant has the highest false alarm rate?

A. participant A
B. participant B
C. participant C
D. can't tell from the information provided

Answer: **C.**
Page Ref: **27**

28. An observer that adopts a conservative criterion will:

A. have a low hit rate
B. have a high hit rate
C. have a low false alarm rate
D. both A and C

Answer: **D.**
Page Ref: **28**

29. A two-alternative forced choice procedure minimizes:
    A. the effects of expectations
    B. the effects of the observer's criterion
    C. both the effects of expectations and the effects of the observer's criterion
    D. neither the effects of expectations nor the effects of the observer's criterion

    Answer: **C.**
    Page Ref: **32**

30. Each separate ROC curve represents a different: (p. 33)
    A. participant
    B. criterion
    C. trial
    D. d'

    Answer: **D.**
    Page Ref: **33**

31. Wendy participates in a color perception experiment in which she is presented with a constant green dot on the left side of the screen (wavelength = 530nm) and another dot on the right side of the screen that varies in wavelength across trials (500nm, 510nm, 520nm, 530nm, 540nm, 550nm, 560nm, or 570nm). Her task is to determine if the two dots are the same or different.

    i. In this experiment, the green dot on the left side is the _____ while the dot on the right side is the _____ .
        A. test stimulus; experimental stimulus
        B. comparison stimulus; test stimulus
        C. initial stimulus; comparison stimulus
        D. standard stimulus; comparison stimulus

    Answer: **D.**
    Page Ref: **33**

ii. It turned out that the dot on the right had to be increased to 550nm for Wendy to notice a difference in the two colors. The difference threshold that corresponds to 1 jnd is:

A. 20nm
B. 50nm
C. 530nm
D. 550nm

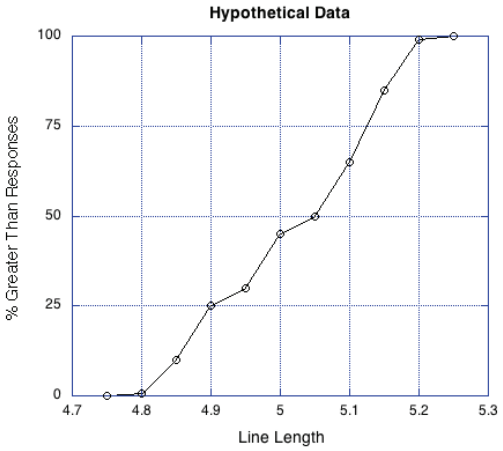
Answer: **A.**
Page Ref: **33**

32. In discrimination studies, the _____ refers to the physical stimulus, whereas the _____ refers to the psychological reaction.

A. difference threshold; just noticeable difference
B. just noticeable difference; difference threshold
C. difference threshold; absolute threshold
D. just noticeable difference; absolute threshold

Answer: **A.**
Page Ref: **33**

33. The graph below shows the results for a participant when discriminating whether a line is greater than 5 inches.



i. The lower difference threshold is:

A. 4.75 inches
B. 4.90 inches
C. 5.00 inches
D. 5.05 inches

Answer: **B.**
Page Ref: **34**

ii. The upper difference threshold is:
A. 5.00 inches
B. 5.10 inches
C. 5.20 inches
D. none of the above

Answer: **D.**
Page Ref: **34**

iii. The point of subjective equality is:
A. 4.80 inches
B. 5.05 inches
C. 5.20 inches
D. none of the above

Answer: **B.**
Page Ref: **34**

34. If we are able to detect that our 100 pound friend Julia has gained weight after she gains only 5 pounds, with a Weber fraction of 1/20, how much weight must our 200 pound friend Justin gain for us to notice?
A. 5 pounds
B. 10 pounds
C. 20 pounds
D. 50 pounds

Answer: **B.**
Page Ref: **35**

35. Smaller Weber fractions indicate:
A. better discrimination abilities
B. that more change is needed to produce a jnd
C. both A and B
D. none of the above

Answer: **A.**
Page Ref: **35**

36. The equation, $\frac{\Delta I}{I} = k$ represents:
    A. Weber's Law
    B. Fechner's Law
    C. Stevens' Power Law
    D. none of the above

    Answer: **A.**
    Page Ref: **35**

37. The equation, $S = k \log I$ represents:
    A. Weber's Law
    B. Fechner's Law
    C. Stevens' Power Law
    D. none of the above

    Answer: **B.**
    Page Ref: **36**

38. The equation $S = kI^n$ represents:
    A. Weber's Law
    B. Fechner's Law
    C. Stevens' Power Law
    D. none of the above

    Answer: **C.**
    Page Ref: **36**

39. Erin participates in an experiment in which she is asked to taste 10 different solutions and rate how sour each one is on a scale from 0 to 10. This is an example of:
    A. the method of limits for measuring discrimination
    B. the method of adjustment for measuring discrimination
    C. the cross-modality matching procedure
    D. the magnitude estimation technique

    Answer: **D.**
    Page Ref: **37**

40. In an experiment, participants are asked to describe how intense the feeling of cold is when placing their hand in ice water by adjusting the lighting in the room to match. This is an example of:
    A. the method of limits for measuring discrimination
    B. the cross-modality matching procedure
    C. the magnitude estimation technique
    D. none of the above

    Answer: **C.**
    Page Ref: **38**

41. Hubel and Wiesel are known for their work using which technique of measuring brain activity?
    A. single cell recording
    B. electroencephalography (EEG)
    C. positron emission tomography (PET)
    D. functional magnetic resonance imaging (fMRI)

    Answer: **A.**
    Page Ref: **39**

42. Which method of measuring brain activity involves inserting a microelectrode into the brain of a living organism?
    A. single cell recording
    B. electroencephalography (EEG)
    C. positron emission tomography (PET)
    D. functional magnetic resonance imaging (fMRI)

    Answer: **A.**
    Page Ref: **39**

43. Which of the following is a limitation of electroencephalography (EEG)?
    A. it only measures the activity of a single neuron in the brain
    B. its use is restricted to nonhuman animals
    C. the results cannot be tied to a specific location in the brain
    D. all of the above

    Answer: **C.**
    Page Ref: **40**

44. Which method of measuring brain activity involves monitoring the presence and changes in areas of high radioactivity?
    A. single cell recording
    B. electroencephalography (EEG)
    C. positron emission tomography (PET)
    D. functional magnetic resonance imaging (fMRI)

    Answer: **C.**
    Page Ref: **40**

45. Which of the following is an advantage of functional magnetic resonance imaging (fMRI)?
    A. it is a noninvasive technique
    B. it can be used on human subjects
    C. it produces precise mapping of brain activity
    D. all of the above

    Answer: **D.**
    Page Ref: **40**

CHAPTER THREE
The Visual System

1. A wavelength is:
    A. the physical characteristic related to perceived brightness
    B. the psychological perception of color
    C. the height of the light wave
    D. the distance between two peaks of the wave

    Answer: **D.**
    Page Ref: **44**

2. The visible spectrum contains wavelengths that range from:
    A. 400nm (red) to 700nm (violet)
    B. 200nm (red) to 500nm (violet)
    C. 400nm (violet) to 700nm (red)
    D. 200nm (violet) to 500nm (red)

    Answer: **C.**
    Page Ref: **44**

3. Which of the following physical characteristics of light is associated with perceived brightness?
    A. purity
    B. amplitude
    C. hue
    D. wavelength

    Answer: **B.**
    Page Ref: **45**

4. Which of the following perceptual characteristics of light is associated with the physical property of purity?
    A. saturation
    B. hue
    C. amplitude
    D. brightness

    Answer: **A.**
    Page Ref: **45**