Earth Science Chapter 16 Section 2 Review

Multiple Choice
Identify the choice that best completes the statement or answers the question.

1. The horizontal distance between two successive crests is called the ____.
   a. fetch  b. wave period  c. wavelength  d. wave height

2. The vertical distance between trough and crest is called the ____.
   a. wave height  b. wavelength  c. fetch  d. wave period

3. What is NOT true about ocean waves?
   a. They get their energy from wind.
   b. They transfer energy without matter as a medium.
   c. The greater the wind speed is, the higher the wave is.
   d. They can travel long distances.

4. Which of the following is visible evidence of energy passing through water?
   a. wave  b. sea arch  c. Coriolis effect  d. density tide

5. What is fetch?
   a. a method of shoreline erosion  b. the distance that wind travels across open water
   c. the circular pattern made by water particles when a wave passes  d. a type of wave-cut platform

6. The height, length, and period of a wave does NOT depend upon which of the following?
   a. the length of time the wind has blown  b. wind speed
   c. tidal range  d. fetch

7. Waves begin to “feel bottom” when water depth is ____.
   a. equal to half of the wavelength  b. equal to the wavelength
   c. twice as great as the wavelength  d. three times as great as the wavelength

8. Which of the following is NOT true about a wave in the open ocean?
   a. Water particles move in a circular path.
   b. The wave form moves forward, but the water particles do not advance appreciably.
   c. Water particles travel with the wave.
   d. As the wave travels, water particles pass the energy along by moving in a circle.

9. As the speed and length of a wave decrease, the wave ____.
   a. grows shorter  b. grows higher  c. moves backward  d. moves in a circle
10. Circular orbital motion refers to ____.
   a. ocean density currents  
   b. water particles and the transfer of energy  
   c. tidal patterns  
   d. the movement of sediment along coasts

11. The smallest daily tidal range occurs during which type of tide?
   a. spring tide  
   b. flood tide  
   c. neap tide  
   d. ebb tide

12. Which tidal pattern has two high tides and two low tides each day?
   a. mixed  
   b. diurnal  
   c. semidiurnal  
   d. bidirectional

13. When is the daily tidal range greatest?
   a. spring tide  
   b. ebb tide  
   c. neap tide  
   d. flood tide

14. Which of the following is a tidal current?
   a. spring tide  
   b. flood tide  
   c. neap tide  
   d. both a and c

15. Which statement best describes the tidal pattern shown in Figure 16-1?
   a. There are two high tides and two low tides each tidal day.  
   b. There is a single high tide and a single low tide each tidal day.  
   c. There is a single high tide and two low tides each tidal day.  
   d. There are two high tides and one low tide each tidal day.

16. What is the name of the tidal pattern shown in Figure 16-1?
   a. diurnal  
   b. semidiurnal  
   c. mixed  
   d. none of the above

Completion

Complete each statement.

17. Most ocean waves obtain their energy and motion from the _________________.

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18. ________________ is the time it takes one wavelength to pass a fixed position.

19. Circular orbital motion allows ________________ to move forward through the water while the individual water particles that transmit the wave move around in a(n) ________________.

20. The primary body in space that influences tides on Earth is the ________________.

Short Answer: Complete TWO questions for FIVE points each. Each additional correct answer is worth one point extra credit.

21. What are ocean waves?

22. What three factors determine the characteristics of a wave?

Figure 16-2

23. In Figure 16-2, what happens to wavelength as the wave approaches shore?

24. In Figure 16-2, at which point do breakers form?
25. What forces produce tides?

Essay: Complete ONE question for FIVE point. Each additional correct answer is worth one point extra credit.

26. Compare and contrast spring tides and neap tides. Discuss when they occur, as well as the alignment of the Earth–moon–sun system.
Earth Science Chapter 16 Section 2 Review
Answer Section

MULTIPLE CHOICE

1. ANS: C  PTS: 1  DIF: L1  OBJ: 16.5
2. ANS: A  PTS: 1  DIF: L1  OBJ: 16.5
3. ANS: B  PTS: 1  DIF: L1  OBJ: 16.5
4. ANS: A  PTS: 1  DIF: L2  OBJ: 16.5
5. ANS: B  PTS: 1  DIF: L1  OBJ: 16.6
6. ANS: C  PTS: 1  DIF: L1  OBJ: 16.6
7. ANS: A  PTS: 1  DIF: L2  OBJ: 16.7
8. ANS: C  PTS: 1  DIF: L2  OBJ: 16.7
10. ANS: B  PTS: 1  DIF: L2  OBJ: 16.7
11. ANS: C  PTS: 1  DIF: L1  OBJ: 16.8
12. ANS: C  PTS: 1  DIF: L1  OBJ: 16.8
13. ANS: A  PTS: 1  DIF: L1  OBJ: 16.8
14. ANS: D  PTS: 1  DIF: L1  OBJ: 16.8
15. ANS: B  PTS: 1  DIF: L2  OBJ: 16.8
16. ANS: A  PTS: 1  DIF: L2  OBJ: 16.8

COMPLETION

17. ANS: wind  
   PTS: 1  DIF: L1  OBJ: 16.5
18. ANS: Wave period  
   PTS: 1  DIF: L1  OBJ: 16.6
19. ANS: energy, circle  
   PTS: 1  DIF: L2  OBJ: 16.7
20. ANS: moon  
   PTS: 1  DIF: L1  OBJ: 16.8

SHORT ANSWER

21. ANS: Ocean waves are energy traveling along the boundary between ocean and atmosphere.  
   PTS: 1  DIF: L1  OBJ: 16.5
22. ANS:
wind speed, length of time the wind has blown, and fetch

PTS: 1  DIF:  L1  OBJ:  16.6

23. ANS:
Wavelength decreases.

PTS: 1  DIF:  L2  OBJ:  16.7

24. ANS:
Point C

PTS: 1  DIF:  L2  OBJ:  16.7

25. ANS:
gravity and inertia

PTS: 1  DIF:  L1  OBJ:  16.8

ESSAY

26. ANS:
Spring tides have the greatest tidal range, or difference in height between successive high and low tides. They occur during new and full moons when Earth, the moon, and the sun are aligned. Neap tides have the smallest tidal range. They occur during first-quarter and third-quarter moons, when Earth, the moon, and the sun are at right angles to one another.

PTS: 1  DIF:  L2  OBJ:  16.8