Short Course F Chapter 5—Earthquakes

MULTIPLE CHOICE

1. Most earthquakes happen at the edges of
   a. tectonic plates.
   b. mountain ranges
   c. seismic gaps
   d. epicenters

2. Which of the following is NOT a type of plate motion?
   a. transform motion
   b. convergent motion
   c. divergent motion
   d. rebound motion

3. A break in Earth's crust along which blocks of crust slide relative to one another is
   a. a plate.
   b. a deformation.
   c. a fault.
   d. an earthquake.

4. What is the simplest method used to find an earthquake's epicenter?
   a. the Mercalli Scale
   b. the ground motion method
   c. The triangulation method
   d. the Richter method

5. Another word for an earthquake's strength is its
   a. magnitude.
   b. intensity.
   c. epicenter.
   d. focus.

6. What is the best thing to do if you are in class when an earthquake begins?
   a. callsomeone on your cell phone
   b. crouch under a table or desk
   c. run outside
   d. stand next to a wall

7. Most earthquakes occur along the edges of
   a. tectonic plates.
   b. seismic gaps.
   c. wave boundaries.
   d. epicenters.

8. The waves of energy from earthquakes that travel through Earth are called
   a. earthquake waves.
   b. transform waves
   c. gap waves.
   d. seismic waves.

9. The epicenter of an earthquake is the point on Earth's surface
   a. directly below the focus.
   b. directly above the earthquake's focus.
   c. above the seismic gap.
   d. where the damage is lightest.

10. What scale is used to measure the strength of an earthquake?
    a. seismogram
    b. gap hypothesis
    c. Richter magnitude
    d. Modified Mercalli Intensity

11. Tsunamis are started when
    a. tectonic plates move apart causing water to first fall
    b. tectonic plates to shift causing vertical displacement of plate and water
    c. the tide pull of the moon is especially strong
    d. volcanoes erupt under water

12. Strike-slip faults are created by
    a. compression stress
    b. tension stress
    c. transcontinental stress
    d. shear stress

13. What causes the ground to move during an earthquake?
    a. elastic rebound
    b. deformation
    c. stress
    d. plastic rebound

14. Primary seismic waves
    a. are slower than secondary waves.
    b. are the result of shearing forces in rock.
    c. can travel through solids, liquids, and gases.
    d. cause Earth's surface to roll up and down.

15. Elastic rebound is:
    a. the streatching of rock
    b. the movement of convection currents in the mantle
    c. the sudden return of stretched rock to it's original shape
    d. how the ground moves when a seismic wave travels through it

16. Which seismic waves do the greatest damage?
    a. surface waves
    b. S waves
    c. P waves
    d. body waves

17. What is the science in which earthquakes are studied called?
    a. earthquake science
    b. tectonics
    c. seismology
    d. wave science

18. What is NOT a good thing to do if you are outdoors when an earthquake starts?
    a. go to a place away from buildings and trees
    b. run back into your home
    c. lie face down
    d. cover your head with your hands

COMPLETION

1. When one tectonic plate slides under another and moves into the mantle, a _____ zone occurs.

2. Compression stress (convergent motion) creates _____ faults.

3. The type of seismic wave that can move through any substance is a(n) _____.

Use the terms from the following list to complete the sentences below.

seismograph	elastic rebound
epicenter	seismic waves
seismic monitor	deformation
S waves	focus

4. The instrument used to record earthquakes is a(n) _____.

5. The point at which an earthquake begins, called the _____, is located along a fault or boundary.

6. There are two types of _____ in which rock changes shape because of stress.

7. The type of energy waves that are reflected by liquids are _____.

Use the terms from the following list to complete the sentences below.

lag time	a fault
elastic deformation	seismic waves
igneous rock	earthquake

8. During elastic rebound, the energy released that travels as _____.

9. Rock that deforms like a stretched rubber band is an example of _____.

10. In order to determine the distance away from an epicenter a seismologist must know _____.

11. A _____is a sudden release of energy in the Earth's crust.

MATCHING

Match each item with the correct statement.

a. convergent motion
b. transform motion
c. divergent motion

7. motion that happens when two plates slip past each other
8. motion that happens when two plates push together
9. motion that happens when two plates pull away from each other

SHORT ANSWER

1. List two things seismologists can learn by studying seismic waves.

2. Compare and contrast P waves and S waves.

3. How would you locate the epicenter of an earthquake once you have determined the distance from the epicenter of the quake to each of three seismographic stations?

5. About how many earthquakes with a magnitude of 10.0 and above occur worldwide on a yearly basis?

6. Explain why historically, earthquakes that occur under the ocean where on one lives, have caused more destruction than earthquakes that occur on land.