

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) Where is the epicenter of an earthquake?
 - A) on Earth's surface, directly above the hypocenter (where break first occurs)
 - B) where the rock on either side of a fault moves
 - C) where the fault meets Earth's surface
 - D) wherever we find the most damage from the earthquake

- 2) Which kind of seismic wave is fastest moving?
 - A) P waves
 - B) surface waves
 - C) S waves
 - D) Seismic waves all travel at the same speed.

- 3) Which kind of seismic wave is responsible for the most shaking (and thus, the most damage to human structures)?
 - A) surface waves
 - B) S waves
 - C) scarp waves
 - D) P waves

- 4) Which one of the following is true of most tsunamis?
 - A) They are usually started by sudden movement on a thrust fault, and they have wavelengths that are many kilometers long and open-ocean wave heights of less than a meter.
 - B) They only occur in the Pacific Ocean basin.
 - C) Their wave heights decrease and wavelengths increase as they move into shallower water.
 - D) They are faster than seismic surface waves.

- 5) The largest earthquake ever recorded in North America had a moment magnitude of _____.
 - A) 8.5
 - B) 9.2
 - C) 6.6
 - D) 7.0

- 6) Approximately how much more energy is released in an earthquake of Richter magnitude 6.5 than in a magnitude 5.5 earthquake?
 - A) 3.2
 - B) 320
 - C) 32
 - D) 3,200

- 7) The distance between a seismological recording station and the earthquake source is determined from the _____.
 - A) difference of arrival times of P and S waves
 - B) earthquake magnitude
 - C) length of the seismic record
 - D) intensity of the earthquake

- 8) The earthquake belt with the greatest level of activity is the _____.
 - A) East Pacific Rise
 - B) San Andreas Fault
 - C) Circum-Pacific Belt
 - D) Alpine-Himalayan Belt

- 9) The phenomenon of transforming a somewhat stable soil into mobile material that behaves like a fluid is called _____.
 - A) tsunami
 - B) subsidence
 - C) landslide
 - D) liquefaction

- 10) Our greatest source of knowledge about Earth's interior comes from _____.
 - A) drill holes
 - B) deep mine shafts
 - C) volcanic eruptions
 - D) seismic waves

- 11) Which one of the following statements is true about the crust?
 - A) It is thickest of the major subdivisions

- 25) A Richter magnitude 8 earthquake is _____ times greater than a Richter magnitude of 7.
A) 5 B) 10 C) 50 D) 100
- 26) The Appalachian Mountains were formed when _____ and _____ collided more than 250 million years ago.
A) Africa; Europe B) South America; Africa
C) North America; Africa D) Australia; Asia
- 27) Seismologists use a method called _____ to pinpoint the epicenter of an earthquake by using three or more seismic stations.
A) interpolation B) triangulation C) extrapolation D) deformation
- 28) _____ occur in which the hanging wall block moves up relative to the footwall block.
A) Strike-slip faults B) Normal faults C) Grabens D) Reverse faults

