

TECTONICS ASSESSMENT

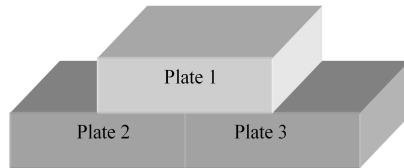
1. Movement along plate boundaries produces...
 - A. tides.
 - B. fronts.
 - C. hurricanes.
 - D. earthquakes.
2. Which of the following is TRUE about the movement of continents?
 - A. Continents do not move
 - B. Continents move with their plate
 - C. Continents move separately from the plates
 - D. Continents moved in the past but are not moving now
3. Which of the following are part of Earth's tectonic plates?
 - A. continents but not ocean basins
 - B. ocean basins but not continents
 - C. both ocean basins and continents
 - D. neither ocean basins and continents
4. Where does seafloor spreading occur?
 - A. at ocean trenches
 - B. at mid-ocean ridges
 - C. at the San Andreas fault
 - D. at the edge of an ocean basin
5. Which of the following describes a reasonable movement of Earth's plates?
 - A. The plates do not move.
 - B. The plates move 1 - 10 centimeters (0.4 - 4 inches) per year.
 - C. The plates move 1 - 10 meters (3 - 30 feet) per year.
 - D. The plates move 1 - 10 kilometers (0.6 - 6 miles) per year.
6. Which of the following is TRUE about boundaries between Earth's plates?
 - A. Boundaries are never found in continents
 - B. Boundaries are always located in the middle of ocean basins
 - C. Boundaries are always located where ocean basins meet continents
 - D. Boundaries can be located anywhere in an ocean basin or in continents

7. Which of the following represents how three of Earth's plates fit together?

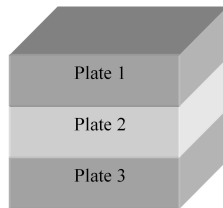
A.



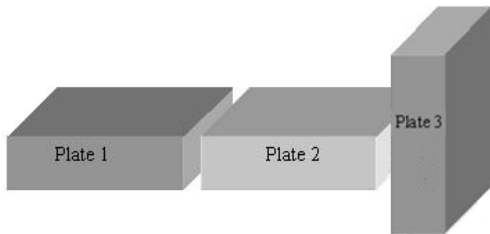
B.



C.



D.



8. What happens when an oceanic part of one plate collides with the continental part of another plate?

- A. The continental part is subducted beneath the oceanic part
- B. The collision of the plates stopped their motions completely
- C. The oceanic part is subducted beneath the continental part
- D. The oceanic part is not subducted but was broken into small pieces

9. Seafloor spreading provides evidence of which of the following Earth processes?

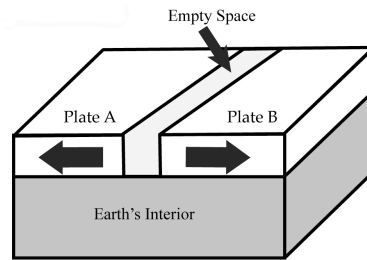
- A. erosion of coastlines
- B. weathering of mountains
- C. movement of tectonic plates
- D. formation of sedimentary rocks

10. Most of Earth's major earthquakes are caused by...

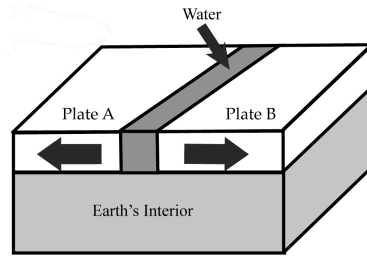
- A. weathering of rock at the Earth's surface.
- B. Earth's gravitational attraction to the Moon.
- C. seasonal heating and cooling of Earth's surface.
- D. sudden movements of rock along faults in Earth's crust.

11. Each of the diagrams below show a plate boundary where two oceanic plates are pulling apart. Which of the following happens over time as the plates pull apart?

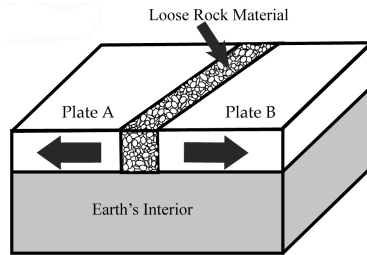
- A. An empty space forms between them that gets wider over time



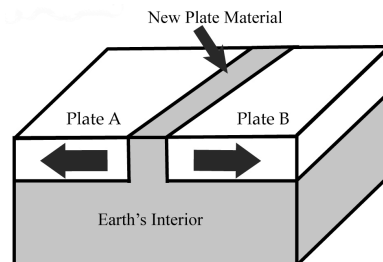
- B. Water immediately fills the empty space between them



- C. Loose rock material immediately fills the empty space between them



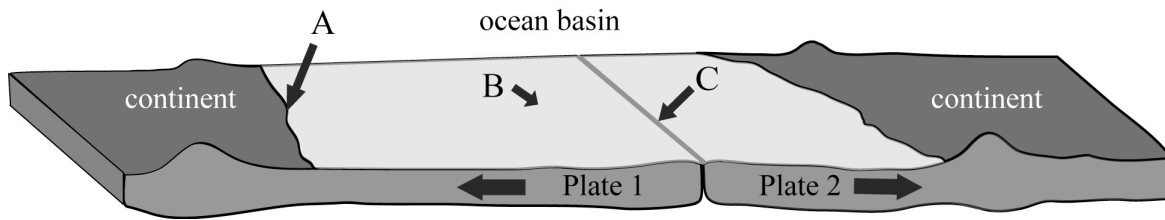
- D. Magma rises to form new plate material, so there is no empty space



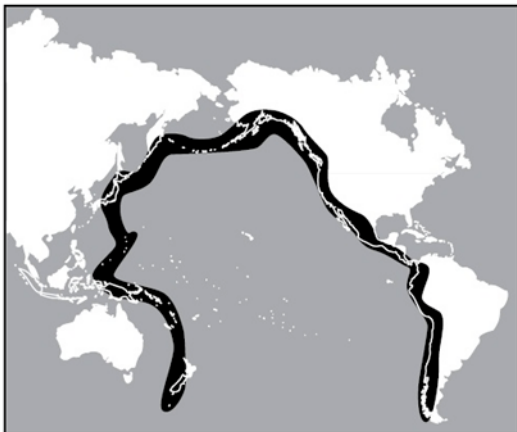
12. Which of the following statements best explains why earthquakes occur more frequently in California than in Pennsylvania?

- A. California is located on a continental plate, but Pennsylvania is not
 B. The rock under California is soft, but the rock under Pennsylvania is hard
 C. California is located on the boundary of two tectonic plates, but Pennsylvania is not
 D. The rock found in California is igneous, but the rock found in Pennsylvania is sedimentary

13. Based on the diagram below, which letter indicates a place where new plate material is forming?

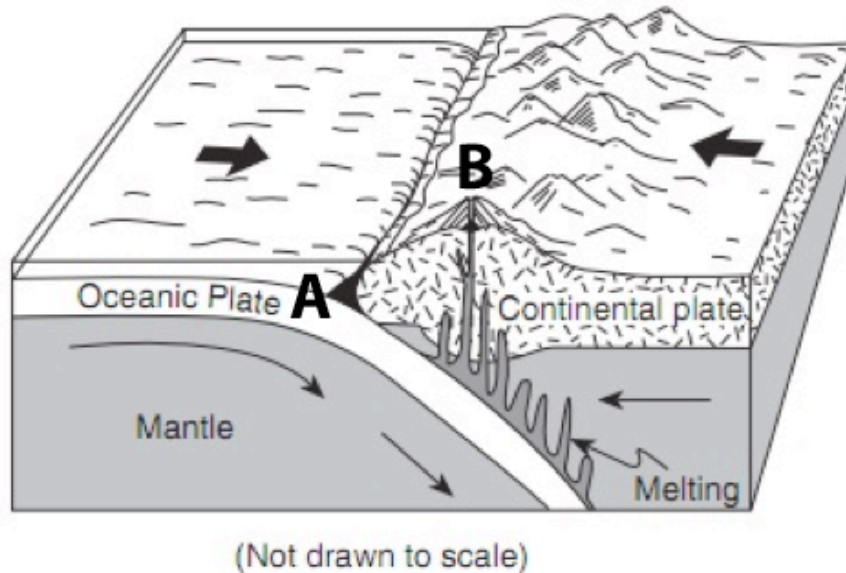


- A. At the boundary of the continent and ocean basin (location A on the diagram)
- B. Midway between the plate boundary and the edge of the continent (location B on the diagram)
- C. At the boundary where the two plates are pulling apart (location C on the diagram)
- D. No new plate material is forming anywhere shown in the diagram
14. Earthquakes and volcanic activity occur along the Pacific Ring of Fire shown below. Which of the following best explains why?



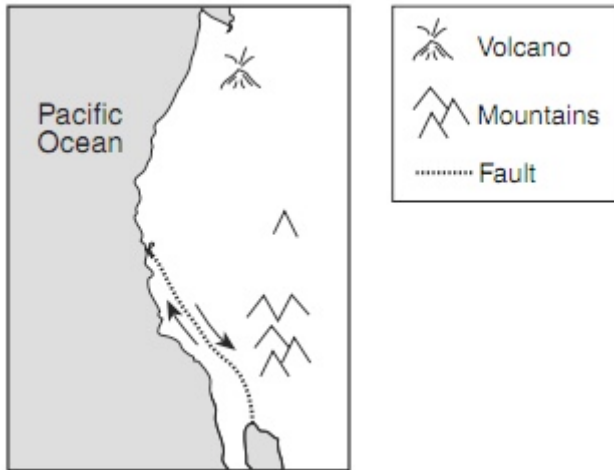
- A. It is located in the center of a tectonic plate
- B. It is located at the boundaries of tectonic plates
- C. It is located where the major ocean currents meet
- D. It is located where ocean temperature is the highest
15. During sea floor spreading, long volcanic ridges form because ...
- A. less dense, hot magma moves to the surface.
- B. underwater earthquakes lift the sea floor into long ridge.
- C. sediments are deposited where the floor spreads, building ridges.
- D. ocean water pushes down on the surrounding sea floor, pushing up ridges.

Questions 16 – 18 are based on the image below.



16. The image above illustrates...
- sea floor spreading.
 - subduction of an oceanic plate.
 - formation of new oceanic crust.
 - formation of a volcanic island chain.
17. In the image above, which has formed at location **A**?
- an ocean trench
 - a mid-ocean ridge
 - a volcanic island chain
 - a coral reef atoll island
18. In the image above, which has formed at location **B**?
- a volcano
 - a normal fault
 - a reverse fault
 - a mountain plateau
19. Pennsylvania is presently located...
- above a mantle hot spot.
 - above a mid-ocean ridge.
 - near the center of a large plate.
 - at a convergent plate boundary.

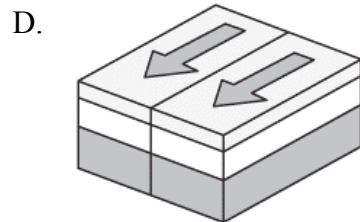
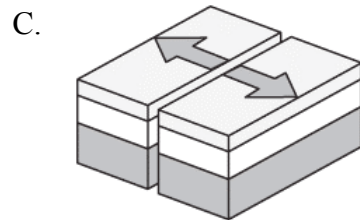
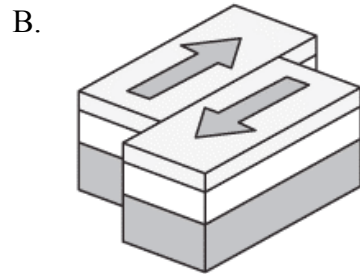
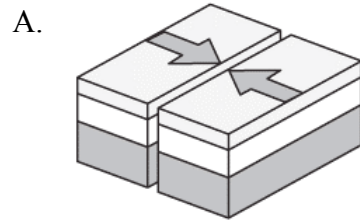
20. The map below shows some geologic features located near the west coast of the United States.



The arrows on either side of the fault represent...

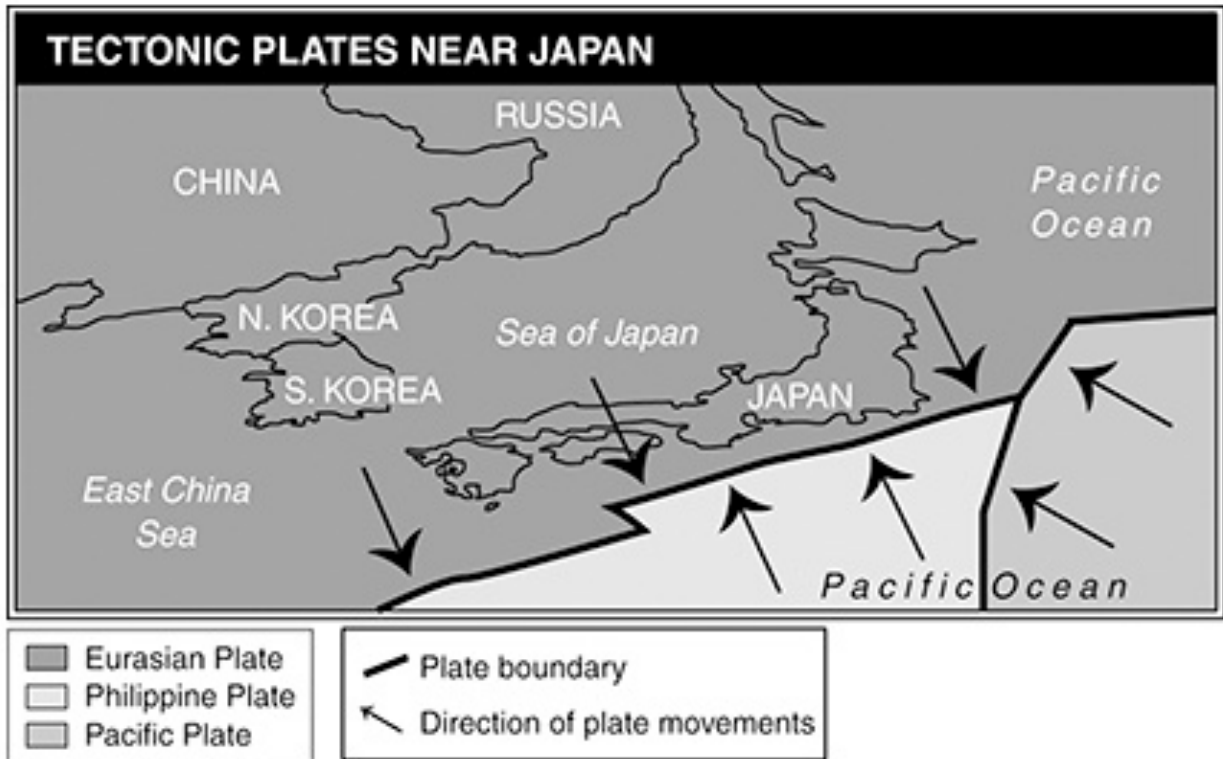
- A. rock formations.
 B. volcanic eruptions.
 C. the relative movement of air masses.
 D. the relative movement of tectonic plates.
21. What does plate tectonic theory predict about the distribution of volcanoes and earthquakes?
- A. They should occur primarily in deep ocean basins
 B. They should only occur along continental margins
 C. They should occur primarily along plate boundaries
 D. They should be evenly distributed throughout the Earth
22. Which provides evidence that thermal energy is a driving force of plate tectonics?
- A. Hurricanes form over warm ocean water
 B. Hot spots occur on Earth's surface as volcanoes
 C. Mountain building occurs only on the Earth's surface
 D. Earthquakes occur near areas of large mountain ranges
23. Why does elevation change across a transform fault?
- A. Sea floor spreading occurs at a transform fault.
 B. Surface heat flow is greatest at a transform fault.
 C. The transform fault puts older ocean floor next to younger ocean floor.
 D. Only earthquakes with shallow epicenter depths occur on a transform fault.

24. Which diagram best represents the type of plate movement that results in mountain building?



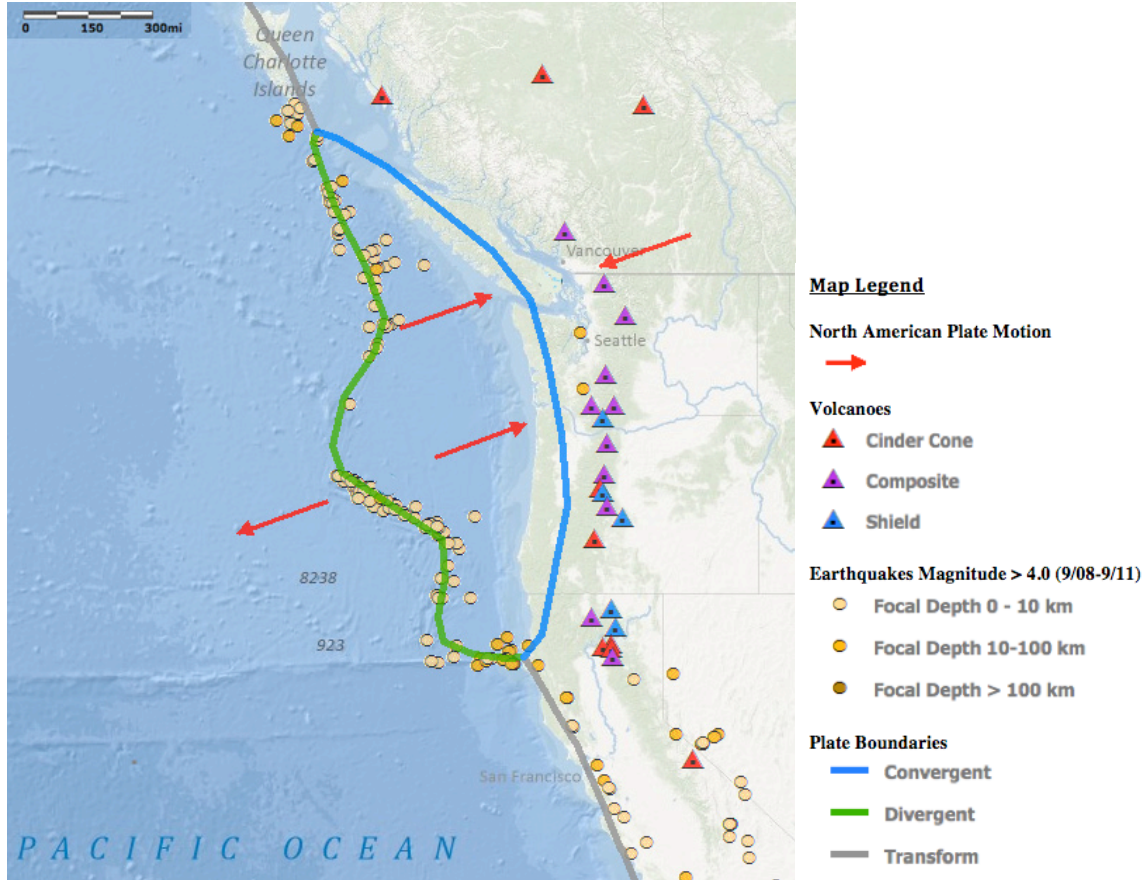
More questions on the next page. Turn the page to continue.

Questions 25 is based on the map below.



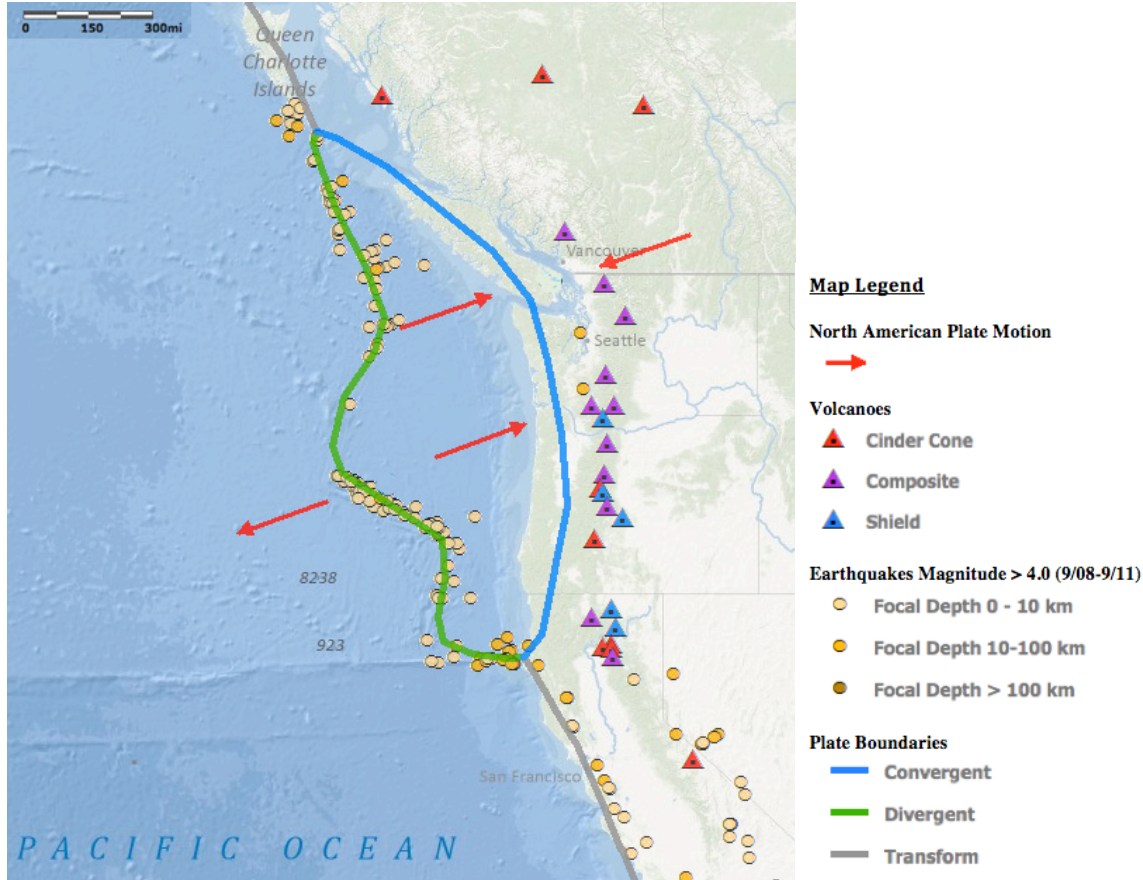
25. The plate boundaries closest to Japan are ...
- hot spot boundaries.
 - divergent boundaries.
 - transform boundaries.
 - convergent boundaries.
26. The bottom of the Marianas Trench in the Pacific Ocean is 11 kilometers below sea level. This deep oceanic trench is caused by ...
- swift ocean currents eroding away the ocean floor.
 - the collapse of an empty magma chamber in a large volcano.
 - excessive boat traffic disrupting the normal sedimentation process.
 - two tectonic plates converging, with one subducting beneath the other.

Questions 27 – 28 are based on the image below from the northwest United States.



27. What pattern exists between volcano locations and plate boundaries?
- Volcanoes occur on plate boundaries.
 - Volcanoes occur near plate boundaries.
 - Volcanoes occur only on the subducting plate.
 - Volcanoes occur only near divergent plate boundaries.
28. What pattern exists between earthquake locations and plate boundaries?
- Most earthquakes occur on or near plate boundaries.
 - Earthquakes only occur on convergent plate boundaries.
 - Only earthquakes with large focal depths occur on plate boundaries.
 - Earthquakes occur only at plate boundaries that are close to volcanoes.

Questions 29 – 30 are based on the image below from the northwest United States.



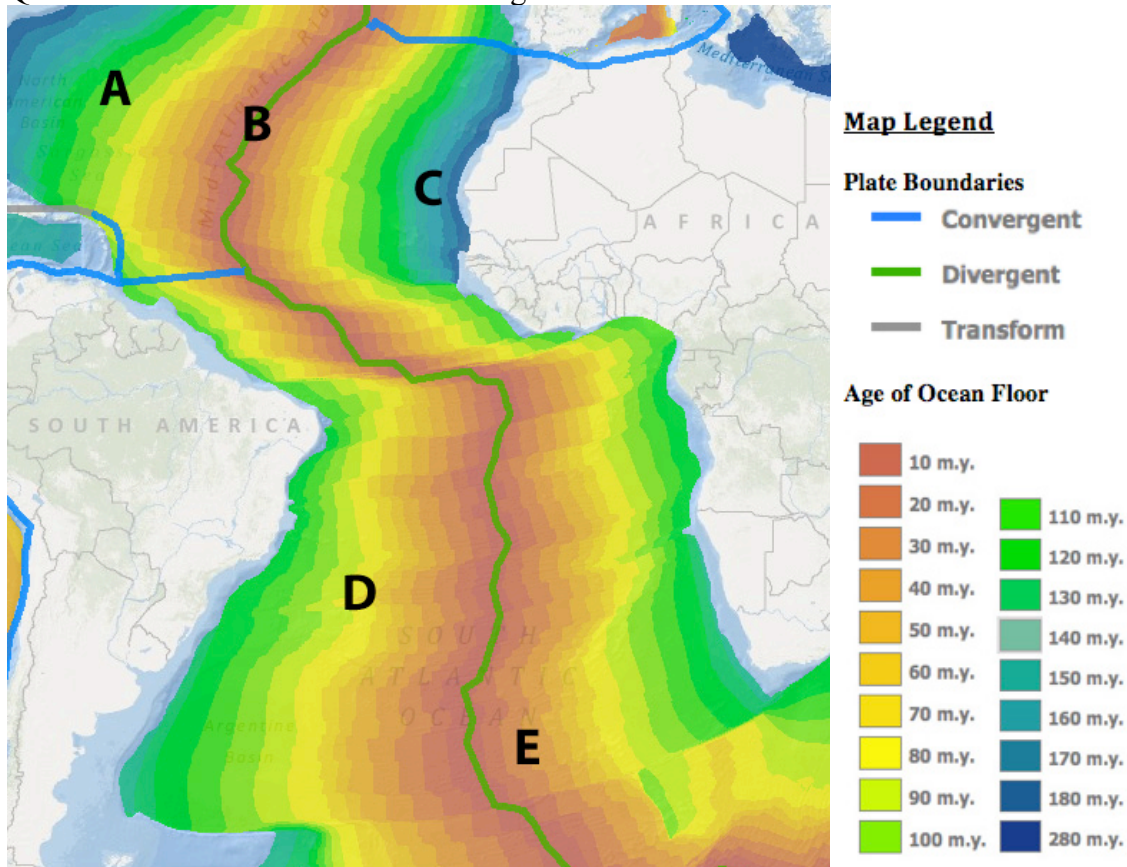
29. The image above includes...

- two tectonic plates with two different types of plate boundaries.
- two tectonic plates with three different types of plate boundaries.
- three tectonic plates with two different types of plate boundaries.
- three tectonic plates with three different types of plate boundaries.

30. Plate boundaries are located.....

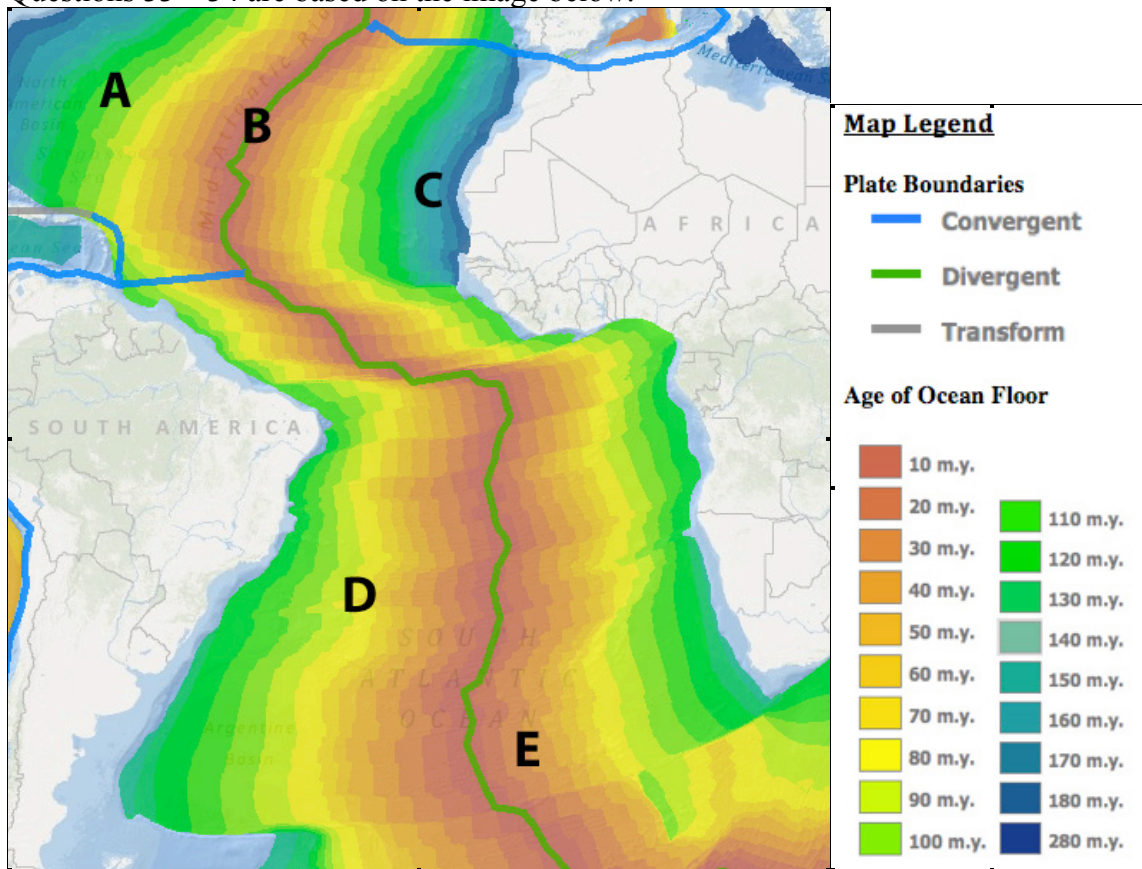
- only in oceanic lithosphere.
- only in continental lithosphere.
- in oceanic and continental lithosphere.
- in lithosphere without seismic hazards.

Questions 31 – 32 are based on the image below.



31. Where is the oldest ocean floor located?
- A. Location A.
 - B. Location B.
 - C. Location C.
 - D. Location E.
32. The youngest ocean floor is located at a
- A. continental shelf.
 - B. transform boundary.
 - C. convergent boundary.
 - D. divergent boundary.

Questions 33 – 34 are based on the image below.



33. Surface heat flow is greatest at...

- A. location A.
- B. location B.
- C. location C.
- D. location D.

34. The ocean is likely shallowest at....

- A. location A.
- B. location B.
- C. locations C.
- D. Locations A, B, and C have the same depth.