

Name: _____

Date: _____ Period: _____

Midterm Review

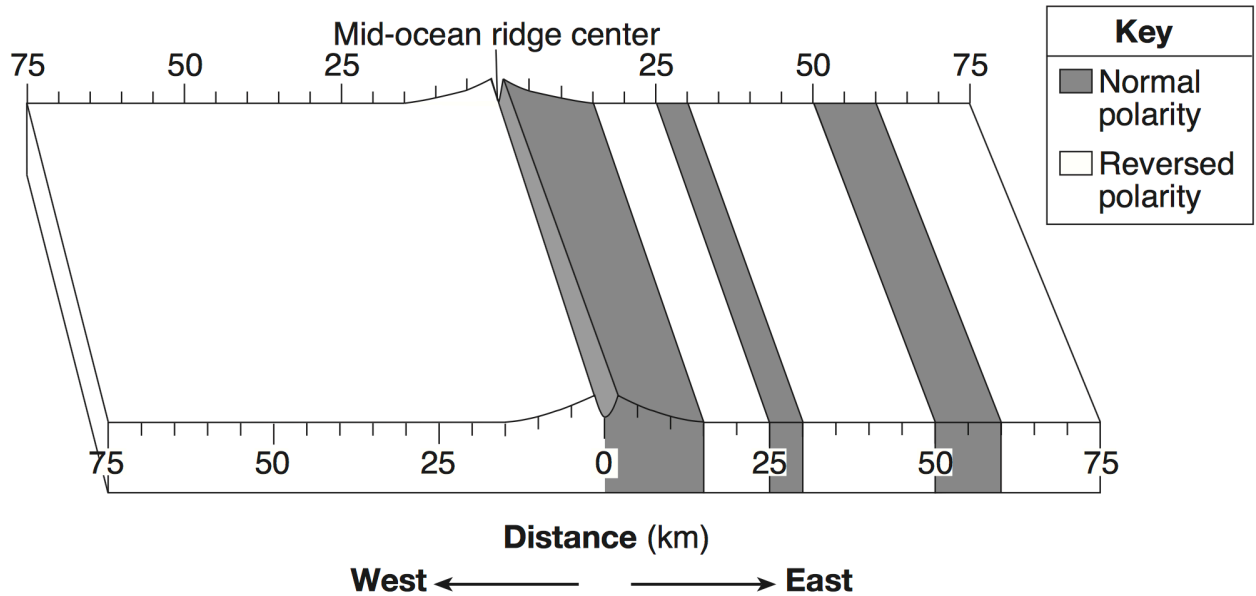
Earth Science

Review: Plate Tectonics

1. Which type of plate boundary is found between the South American Plate and the Scotia Plate?
 - a. transform
 - b. convergent
 - c. divergent
 - d. complex or uncertain
2. The convection currents responsible for moving tectonic plates occur in which Earth layer?
 - a. crust
 - b. rigid mantle
 - c. stiffer mantle
 - d. asthenosphere
3. Which geologic feature is composed of the youngest crustal bedrock?
 - a. Peru-Chile Trench
 - b. Mid-Atlantic Ridge
 - c. Adirondack Mountains
 - d. San Andreas Fault
4. Earth's magnetic field has reversed itself several times during the past. This pattern of magnetic reversal is best preserved in
 - a. metamorphic bedrock in mountain ranges
 - b. bedrock with fossils containing radioactive carbon-14
 - c. layers of sedimentary bedrock of the Grand Canyon
 - d. igneous bedrock of the oceanic crust
5. What is the approximate location of the Tasman Hot Spot in the Pacific Ocean?
 - a. 36° N 160° W
 - b. 36° S 160° E
 - c. 160° N 36° W
 - d. 160° S 36° E
6. Which two mantle hot spots are located at mid- ocean ridges?
 - a. Iceland and Yellowstone
 - b. Galapagos and Tasman
 - c. St. Helena and Hawaii
 - d. Easter Island and Bouvet
7. The Hawaiian Islands were formed as a result of
 - a. lava flowing over Earth's surface where two tectonic plates move apart
 - b. an oceanic plate moving over a mantle hot spot
 - c. two oceanic plates colliding to form an island arc
 - d. tectonic plates sliding past each other

Review: Plate Tectonics

Base your answers to questions 8 and 9 on the block diagram in your answer booklet and on your knowledge of Earth science. The diagram represents the pattern of normal and reversed magnetic polarity of the seafloor bedrock on the east side of a mid-ocean ridge center. The magnetic polarity of the bedrock on the west side of the ridge has been omitted. Arrows represent the direction of seafloor movement on either side of the ridge.



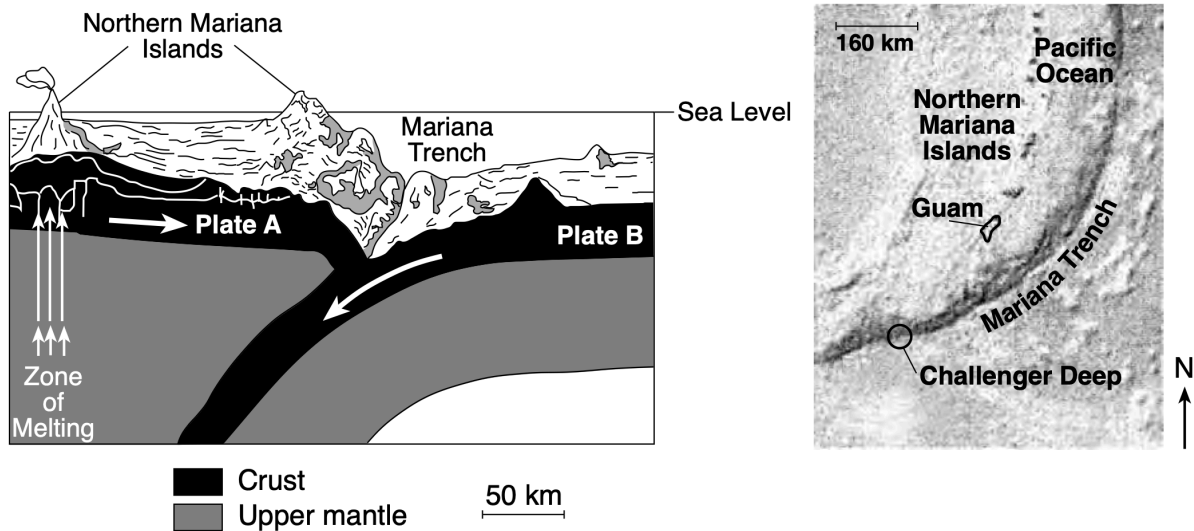
- Complete the diagram in your answer booklet by shading the pattern of normal polarity on the west side of the ridge center. Assume the rate of plate movement was constant on both sides of the ridge center. Your answer must show the correct width and placement of each normal polarity section.
- Describe the relationship between the distance from the ridge center and the age of the seafloor.

Review: Plate Tectonics

Base your answers to questions 10 through 12 on the passage, cross section, and map below and on your knowledge of Earth science. The cross section represents the relative movement of two tectonic plates, labeled A and B, at the Mariana Trench. Arrows in the plates indicate the direction of this movement.

Challenger Deep

Challenger Deep is the deepest known point in Earth's oceans. This relatively narrow depression, only 7 miles long and 1 mile wide, is located in the bottom of the southern end of the Mariana Trench near the Mariana Islands, which includes the island of Guam. Challenger Deep is 6.83 miles deep, compared to Mount Everest, which is 5.49 miles above sea level.



10. Identify the names of tectonic plate A and tectonic plate B.
11. Identify the type of tectonic plate boundary shown in the cross section.
12. Identify one other geologic surface feature, other than a trench, found at the cross section above.