Regents Earth Science Review Name_____

Plate Tectonics and Continental Drift

Use the ESRT to determine relative motion and events occurring at plate boundaries.

1_____ 2_____ 3_____ 4_____

Understand the evidence that exists for continental drift and sea floor spreading.

5_____ 6_____ 7_____ 8_____

Use the ESRT to determine the past locations of crustal plates.

9_____ 10_____ 11_____

Compare and contrast continental and oceanic crust.

12_____ 13_____ 14_____

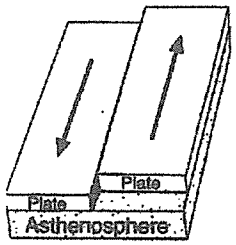
Recognize the mechanism that causes plate tectonics.

15_____ 16_____ 17_____

Plate Tectonics and Continental Drift

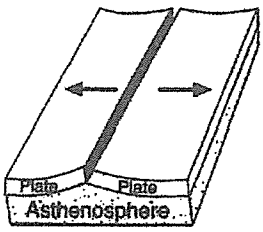
____1. Which diagram best shows the type of plate boundary found between the China Plate and the Philippine Plate?

(1)



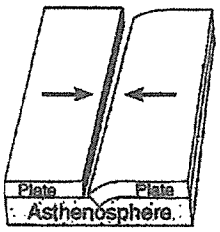
Transform

(2)



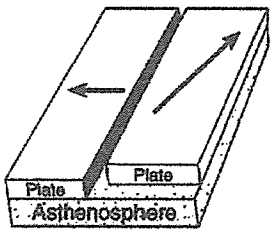
Divergent

(3)



Convergent

(4)

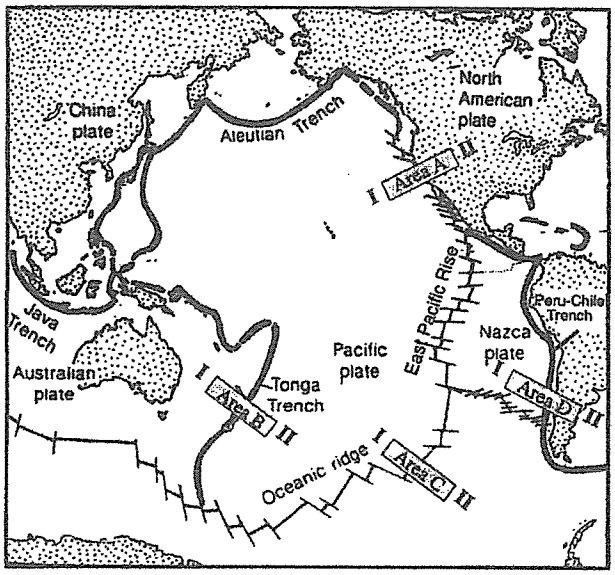


Complex

____2. According to the plate tectonics theory, the Peru-Chile Trench and the Andes Mountains formed along the west coast of South America because the South American Plate

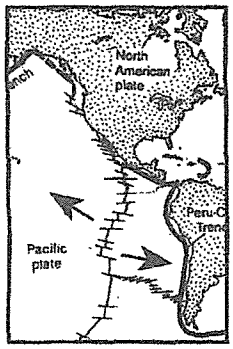
(1) collided with the Nazca Plate
(2) collided with the North American Plate
(3) slid away from the Nazca Plate
(4) slid away from the North American Plate

____3. Base your answer on the *Earth Science Reference Tables* and the map below. The map shows mid-ocean ridges and trenches in the Pacific Ocean. Specific areas *A*, *B*, *C*, and *D* are indicated by shaded rectangles.

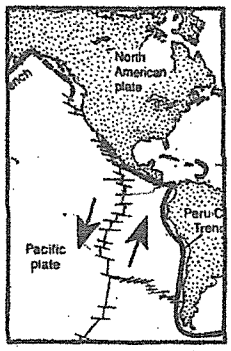


Which map best shows the direction of movement of the oceanic crustal plates in the vicinity of the East Pacific Rise (ridge)?

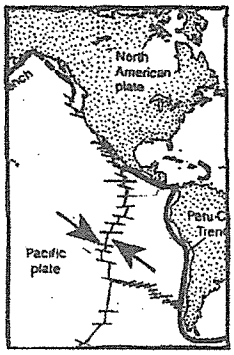
(1)



(3)



(2)



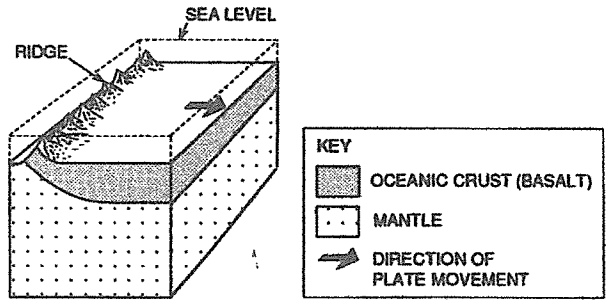
____4. Which features are commonly formed at the plate boundaries where continental crust converges with oceanic crust?

(1) large volcanic mountain ranges parallel to the coast at the center of the continents
(2) a deep ocean trench and a continental volcanic mountain range near the coast
(3) an underwater volcanic mountain range and rift valley on the ocean ridge near the coast
(4) long chains of mid-ocean volcanic islands perpendicular to the coast

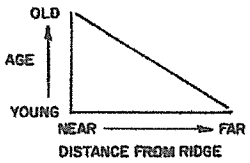
____5. Igneous rocks on the ocean floor that have an alternating pattern of magnetic orientation provide evidence that

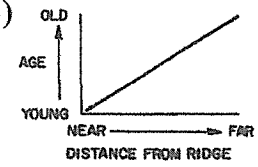
(1) mountains are rising
(2) the seafloor is spreading
(3) the Earth was struck by meteorites
(4) ocean tides are cyclic

____6. The diagram below shows one side of an oceanic ridge and a portion of the ocean floor.



Which graph best illustrates the age of the basalt as the distance from an oceanic ridge increases?

(1)


(3)


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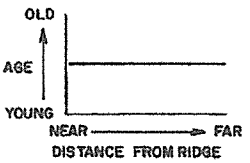

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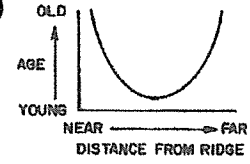
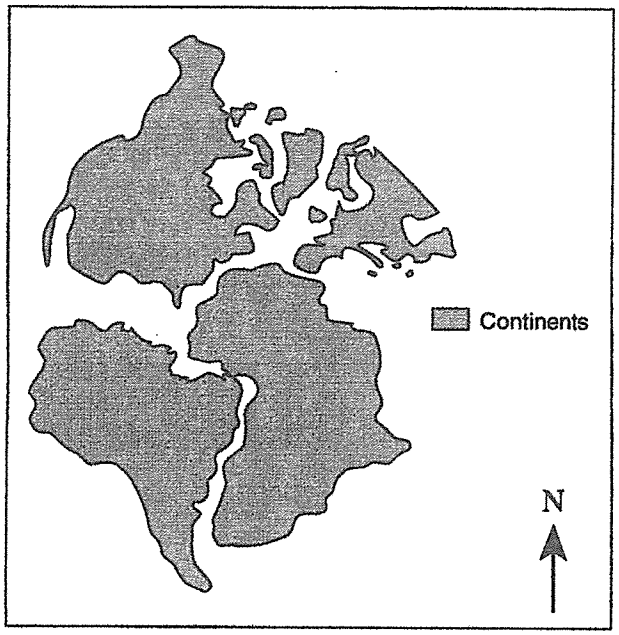


____7. Which statement best supports the theory that all the continents were once a single landmass?

(1) Rocks of the ocean ridges are older than those of the adjacent sea floor.
(2) Rock and fossil correlation can be made where the continents appear to fit together.
(3) Marine fossils can be found at high elevations above sea level on all continents.
(4) Great thicknesses of shallow-water sediments are found at interior locations on some continents.

Base your answers to questions 8 and 9 on the diagram below. The diagram represents the supercontinent Pangaea, which began to break up approximately 220 million years ago.

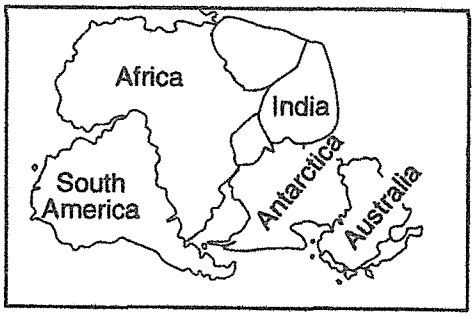


8. State one form of evidence that supports the inference that Pangaea existed.

9. State the compass direction toward which North America has moved since Pangaea began to break apart.

_____

____10. The diagram below shows how scientists think some of Earth's continents were joined together in the geologic past.



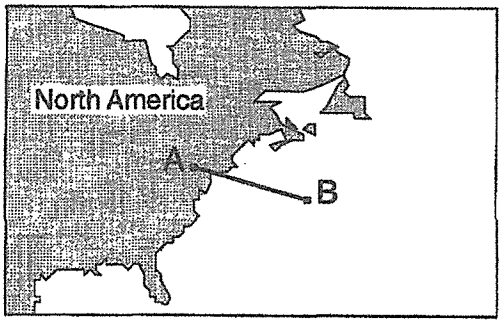
When do scientists think these continents were joined together?

(1) during the Tertiary Period, only
(2) from the Cretaceous Period through the Tertiary Period
(3) from the Devonian Period through the Triassic Period
(4) during the Cambrian Period, only

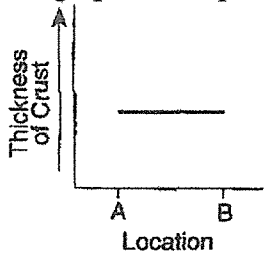
____11. During which era did the initial opening of the present-day Atlantic Ocean most likely occur?

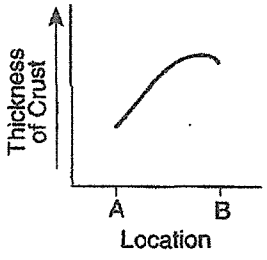
(1) Cenozoic
(2) Mesozoic
(3) Paleozoic
(4) Late Proterozoic

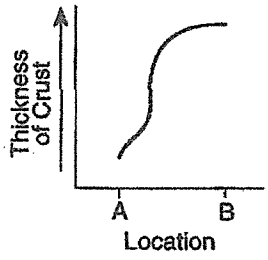
___12. On the map below, locations *A* and *B* are reference points on the Earth's surface. Crustal thickness was measured beneath a line from *A* to *B*.

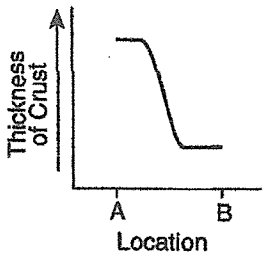


Which graph best represents the thickness of the Earth's crust from location A to location B?

(1) 

(2) 

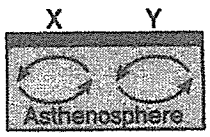
(3) 

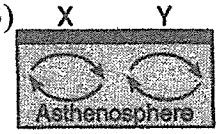
(4) 

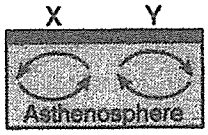
___13. Compared to Earth's oceanic crust, Earth's continental crust is
(1) thinner and composed of granite
(2) thinner and composed of basalt
(3) thicker and composed of granite
(4) thicker and composed of basalt

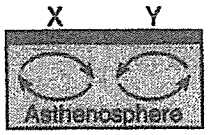
___14. Compared to continental crust, oceanic crust is
(1) less dense, more mafic, and thinner
(2) less dense, more felsic, and thicker
(3) more dense, more mafic, and thinner
(4) more dense, more felsic, and thicker

___15. Which cross-sectional diagram of Earth's asthenosphere best shows the convection currents that would cause crustal plate *X* to drift away from crustal plate *Y*?

(1) 

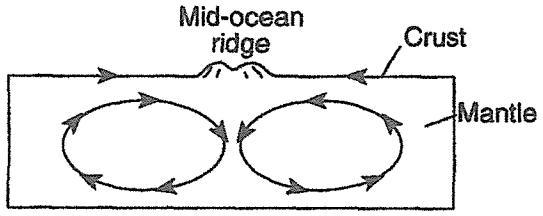
(3) 

(2) 

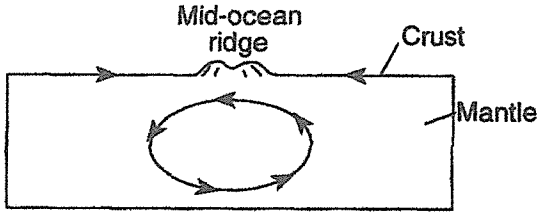
(4) 

____16. Which cross-sectional diagram of a portion of the crust and mantle best shows the pattern of mantle convection currents that are believed to cause the formation of a mid-ocean ridge?

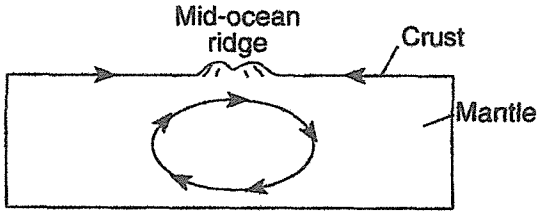
(1)



(2)



(3)



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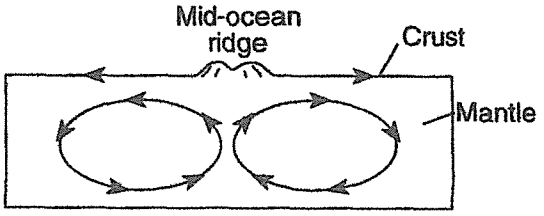

____17. The primary cause of convection currents in the Earth's mantle is believed to be the

(1) differences in densities of earth materials
(2) subsidence of the crust
(3) occurrence of earthquakes
(4) rotation of the Earth