NAME

ENVI.2020 - PRINCIPLES OF EARTH & ENVIRONMENTAL SYSTEMS I

STUDY QUESTIONS IV

PLATE TECTONICS AND CONTINENTAL DRIFT

1. List and briefly describe the layers of the earth starting with the inner core.
2. Briefly describe the topography of the ocean basins.
3. How can remnant magnetism be used to determine paleolatitudes.
4. Explain how reversals in the earth's magnetic field are used to determine the age of the oceanic crust.
5. How does the distribution of earthquake foci correlate with the three types of plate boundaries?
6. Briefly describe the variation of heat flow across the Earth’s surface.
7. Explain how a volcanic center ("hot spot") under an ocean basin forms a chain of volcanic islands.
8. How might you account for the contrast between the broad continental shelf off the East Coast of North America and the narrow, almost nonexistent one off the West Coast.
9. What is the Wilson Cycle?
10. What is the driving force for plate tectonics?

11. Would the gravity anomaly, after making free-air and Bouguer corrections, show large negative values, near zero, or large positive values at each of the following places? Explain your answers.

a. Rocky Mountains

b. East Coast of the U.S.

c. Middle of an ocean basin

12. Explain the following in the context of plate tectonics:

a. Iceland

b. San Andreas fault

c. Ural mountains

d. Aleutian trench

e. Earthquakes in Italy and Turkey

f. Andes mountains