**(25 pts)**

**Directions: On a separate sheet of paper, write your answers using complete sentences. Attach your answers to the back of this sheet, and write your name period and date for full credit.**

1. **(5 pts)** In 1915, Alfred Wegener proposed the theory of continental drift.
   1. Describe the four main lines of evidence Wegner used to support his theory.
   2. Why did the scientific community initially dismiss Wegner’s theory?
2. **(5 pts)** Explain the process of sea floor spreading. What type of plate boundary is associated with this process?
   1. How many inches/centimeters do plates moves away from each other where the sea floor is spreading?
   2. Explain why the following is evidence for sea-floor spreading
      1. Magnetic polarization
      2. Age of ocean crust
3. **(2 pts)** Explain why Hawaii and Yellowstone are examples of Hot Spots.
4. **(5 pts)** Use the list below to match each of the plate boundaries and explain what geologic features are found at each boundary, or if any are formed at all.

|  |  |
| --- | --- |
| Boundary Type | Geologic Features |
| Transform boundary  Oceanic-oceanic convergent  Continental-oceanic convergent  Continental-continental convergent  Oceanic-oceanic divergent | Mid-Ocean Ridge  Non-volcanic Mountains  Volcanic Mountains  Deep Ocean Trench  Volcanic Island Arc  Rift valley |

1. **(3 pts)** Describe the process of subduction as it relates to an oceanic plate and a continental plate.

Uses the following terms in your description: Density, basalt-like rock, granite-like rock, convergent boundary, deep ocean trench, volcanic mountains.

1. **(2 pts)** Describe the main processes that drive plate motions.

Use the terms: Convection, mantle, crust, slab-pull, and ridge-push.

1. **(3 pts)** Draw a diagram to describe the layers of Earth.

Include: Inner core, outer core, mantle, asthenosphere, lithosphere, crust.

Use the terms: solid, liquid, metallic, near melting point, plastic, rigid