

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Environmental Science CH.8 Take Home Test

### Multiple choice (2 points each)

- 1) Which layer of Earth is composed primarily of iron and nickel?
  - a. The core
  - b. The crust
  - c. The asthenosphere
  - d. The mantle
  - e. The lithosphere
- 2) The Hawaiian islands were formed
  - a. At a divergent plate boundary
  - b. At a hotspot
  - c. At a convergent plate boundary
  - d. At a transform fault
  - e. At a mid-ocean ridge
- 3) Which rock is formed at a high temperatures and pressures?
  - a. Extrusive igneous
  - b. Intrusive igneous
  - c. Basaltic
  - d. Sedentary
  - e. Metamorphic
- 4) Earthquake epicenters are often at
  - a. Divergent boundaries
  - b. Convergent boundaries
  - c. Transform boundaries
  - d. Hot spots
  - e. Subduction zones
- 5) Acid precipitation directly causes
  - I. Erosion
  - II. Physical weathering
  - III. Chemical weathering
  - a. I only
  - b. I and II only
  - c. I and III only
  - d. III only
  - e. I,II, and III
- 6) What are the 5 primary soil formation factors?
  - a. Altitude, climate, parent material, latitude, organisms
  - b. Climate, parent material, pH, organisms, topography
  - c. Parent material, topography, organisms, time, latitude
  - d. Parent material, climate, pH, latitude, altitude
  - e. Climate, parent material, topography, organisms, time
- 7) Which is the correct order of soil horizons starting at the surface?
  - a. A, B, C, O
  - b. O, C, A, B
  - c. O, A, B, C
  - d. A, C, O, B
  - e. A, B, O, C
- 8) What type of soil would be best for a man-made pond, where the goal is to have as little leakage of water as possible?
  - a. Mostly clay
  - b. Mostly silt
  - c. Mostly sand
  - d. Equal amounts of sand, silt, and clay
  - e. Equal amounts of silt, and sand

- 9) Which of the following, if added to soil, would lower the base saturation?
- Sodium
  - Potassium
  - Magnesium
  - Calcium
  - Aluminum
- 10) The soil horizon commonly known as subsoil is the
- A horizon
  - O horizon
  - B horizon
  - C horizon
  - E horizon
- 11) An Earth slowly cooled
- A lighter elements sank to the core and heavier elements moved to the surface.
  - Lighter elements mixed with heavier elements and sank to the core.
  - Lighter elements mixed with heavier elements and moved to the surface.
  - Lighter elements moved to the surface and heavier elements dispersed evenly from the core to the surface.
  - Lighter and heavier elements dispersed evenly from the core to the surface.
- 12) Evidence for the theory of plate tectonics includes
- Deposits of copper ore around the globe
  - Identical rock formations on both sides of the Atlantic
  - Fossil of the same species on distant continents
- I only
  - I and III only
  - II and III only
  - I and II only
  - I, II, and III
- 13) Which type of mining is usually most directly harmful to miners?
- Mountaintop removal
  - Open-pit mining
  - Place mining
  - Strip mining
  - Subsurface mining
- 14) Measured on the Richter scale, an earthquake with magnitude of 7.0 is \_\_\_\_\_ times greater than a earthquake with magnitude of 2.0
- 10
  - 100
  - 1,000
  - 10,000
  - 100,000

***For questions 15-18, select from the following choices:***

- Seismic activity center
  - Divergent plate boundary
  - Convergent plate boundary
  - Transform fault boundary
  - Epicenter
- 15) At which type of boundary do tectonic plates move sideways past each other?
- 16) At which type of boundary does subduction occur?
- 17) At which type of boundary does seafloor spreading occur?
- 18) Which term refers to the point on Earth's surface directly above an earthquake?

- 19) Fossil records are found in
- Intrusive rock
  - Extrusive rock
  - Igneous rock
  - Metamorphic rock
  - Sedimentary rock
- 20) Which of the following statements about soil is NOT correct?
- Soil is fairly static and does not change
  - Soil is the medium for plant growth
  - Soil is a primary filter of water
  - A wide variety of organisms live in the soil
  - Soil plays an important role in biogeochemical cycles

***Write your answer to each part clearly, Support your answers with relevant information and examples. Where calculations are required, show your work.***

- 21) The rock cycle plays an important role in the recycling of Earth's limited amounts of mineral resources.
- The mineral composition of rock depends on how it is formed. Name the 3 distinct rock types, explain how each rock type is formed, and give one specific example of a rock of each type. (6 points)
  - Explain either the physical or the chemical weathering process that leads to the breakdown of rocks. (2 points)
  - Describe the natural process that can lead to the formation of soil, and discuss how human activities can accelerate the loss of soil. (2 points)