Earth Science Chapter 10 Section 3 Review

Multiple Choice
Identify the choice that best completes the statement or answers the question.

1. Most shield volcanoes have grown from the ocean floor to form ____.
   a. islands  
   b. dikes  
   c. tectonic plates  
   d. canyons

2. The volcanic landforms at divergent ocean plate boundaries are ____.
   a. oceanic ridges  
   b. volcanic island arcs  
   c. continental volcanic arcs  
   d. ocean trenches

3. Most of the active volcanoes on Earth are located in a belt known as the ____.
   a. circum-Atlantic belt  
   b. Ring of Fire  
   c. Ring of Lava  
   d. East African Rift Valley

4. What volcanic feature is illustrated at A in Figure 10-2?
   a. continental volcanic arc  
   b. volcanic island arc  
   c. hot spot  
   d. ocean ridge

5. What type of plate boundary resulted in the volcanic activity illustrated in Figure 10-2?
   a. divergent plate boundary  
   b. oceanic-oceanic convergent plate boundary  
   c. oceanic-continental convergent plate boundary  
   d. continental-continental convergent plate boundary
6. In general, what is true about the composition of the igneous rocks produced in association with subduction zone volcanic activity?
   a. The rocks are rich in silica.
   b. The rocks are low in silica.
   c. The rocks have the highest possible silica content.
   d. The rocks contain no silica.

7. Which type of landform develops at plate boundaries where one oceanic plate descends beneath another?
   a. rift valley
   b. volcanic island arc
   c. mountain ranges formed by a batholith
   d. lava plateau

8. At divergent plate boundaries in the ocean, magma rises and melts because of ____.
   a. higher temperatures at the surface
   b. a decrease in pressure
   c. intrusive plutons at the boundary
   d. increased silica content of magma

9. Most intraplate volcanic activity occurs where ____.
   a. oceanic plates diverge
   b. hot magma descends into the mantle under a plate
   c. hot mantle plumes rise toward the surface within a plate
   d. oceanic and continental plates converge

10. The igneous activity in Yellowstone National Park is associated with what tectonic setting?
    a. divergent plate boundary
    b. convergent oceanic-oceanic plate boundary
    c. intraplate setting
    d. convergent oceanic-continental plate boundary

11. The Hawaiian Islands are associated with what type of volcanism?
    a. intraplate volcanism
    b. subduction zone volcanism
    c. volcanism at a divergent plate boundary
    d. volcanism at a convergent plate boundary

Completion
    Complete each statement.

12. Where slabs of oceanic lithosphere are subducted under continental lithosphere a(n) __________ can form.

13. During seafloor spreading, most volcanic magma is produced at ________________.

Name: ________________________  ID: A
14. A hot plume of mantle material, which may extend to the core-mantle boundary, produces a(n) ____________, a volcanic region a few hundred kilometers across.

Short Answer

15. What are the plate tectonic settings in which most volcanoes occur?

16. Why do some volcanoes not occur at plate boundaries?
Earth Science Chapter 10 Section 3 Review
Answer Section

MULTIPLE CHOICE

1. ANS: A PTS: 1 DIF: L1 OBJ: 10.8
2. ANS: A PTS: 1 DIF: L1 OBJ: 10.8
3. ANS: B PTS: 1 DIF: L1 OBJ: 10.8
4. ANS: A PTS: 1 DIF: L1 OBJ: 10.8
5. ANS: C PTS: 1 DIF: L2 OBJ: 10.8
6. ANS: A PTS: 1 DIF: L2 OBJ: 10.8
7. ANS: B PTS: 1 DIF: L2 OBJ: 10.8
8. ANS: B PTS: 1 DIF: L2 OBJ: 10.8
9. ANS: C PTS: 1 DIF: L1 OBJ: 10.9
10. ANS: C PTS: 1 DIF: L2 OBJ: 10.9
11. ANS: A PTS: 1 DIF: L2 OBJ: 10.9

COMPLETION

12. ANS: continental volcanic arc
   PTS: 1 DIF: L2 OBJ: 10.8
13. ANS: oceanic ridges
   PTS: 1 DIF: L2 OBJ: 10.8
14. ANS: hot spot
   PTS: 1 DIF: L1 OBJ: 10.9

SHORT ANSWER

15. ANS:
    Most volcanoes occur at either divergent plate boundaries at ocean ridges or rifts; at convergent plate
    boundaries at subduction zones; or at hot spots, which are not plate boundaries, but are areas where hot
    mantle plumes cause volcanic activity.
    PTS: 1 DIF: L2 OBJ: 10.8

16. ANS:
    Some volcanoes occur at intraplate locations, in areas known as hot spots, where hot mantle plumes rise up
    into the crust and result in volcanic activity at the surface.
    PTS: 1 DIF: L1 OBJ: 10.9