

Name: _____

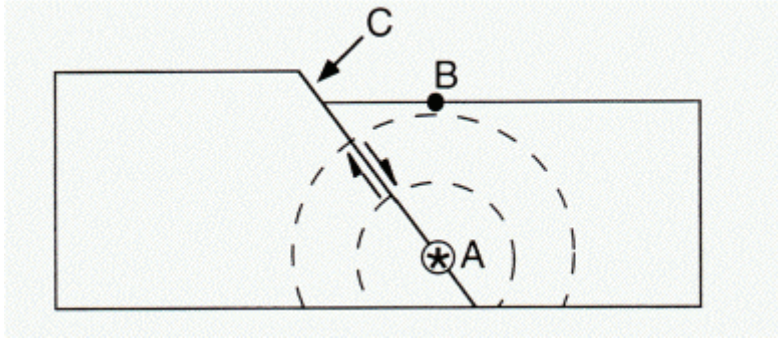
Assignment #5-7: Geology 110

1. "Geological processes operating at the present time are the same processes that have operated in the past" is a statement of:
 - A. the Principle of Cross-cutting Relationships
 - B. the Principle of Original Horizontality
 - C. the Principle of Uniformitarianism
 - D. the Principle of Faunal Succession
2. If rock A cross-cuts rock B, then rock A is:
 - A. older than rock B
 - B. younger than rock B
 - C. the same age as rock B
 - D. on top of rock B
3. Which of the following is a method of correlation?
 - A. physical continuity
 - B. similarity of rock types
 - C. similar fossil assemblages
 - D. all of these can be used for correlation
4. Eras of the Standard Geologic Time Scale are subdivided into:
 - A. Eons
 - B. Epochs
 - C. Ages
 - D. None of these
5. Which subdivision of geologic time is the longest?
 - A. Precambrian
 - B. Mesozoic Era
 - C. Tertiary Period
 - D. Miocene Epoch
6. Which is a useful radioactive decay scheme?
 - A. U-238/Pb206
 - B. U-235/Pb-207
 - C. K-40/Ar-40
 - D. all of these
7. Radiocarbon dating is a useful technique for all samples below except:
 - A. wood
 - B. bone
 - C. shells
 - D. granite
8. Radon is a gas derived from the natural radioactive decay of:
 - A. Uranium
 - B. Lead
 - C. Potassium
 - D. Plutonium

9. Concentrations of radon are highest in areas where the bedrock is:
- A. sandstone
 - B. basalt
 - C. phyllite
 - D. black shale
10. Which of the following is not a type of unconformity?
- A. nonconformity
 - B. disconformity
 - C. uniformity
 - D. angular unconformity
11. A geologist could use the Principle of Inclusions to determine the relative age of:
- A. fossils
 - B. metamorphism
 - C. xenoliths
 - D. shale layers
12. A contact between parallel sedimentary rock layers that records missing geologic time is:
- A. a disconformity
 - B. an angular unconformity
 - C. a uniformity
 - D. a nonconformity
13. The oldest abundant fossils of multicellular life forms are observed in rocks from:
- A. the Archean Eon
 - B. The Mesozoic Era
 - C. The Cambrian Period
 - D. The Paleocene Epoch
14. Geologists are reasonably convinced that Earth is:
- A. 4,500,000,000,000 yrs. old
 - B. 4,500,000,000 yrs. old
 - C. 450,000,000 yrs. old
 - D. 45,000,000 yrs. old
15. Undisturbed sedimentary rock layers occur in horizontal layers. This is a statement of:
- A. The Principle of Superposition
 - B. The Principle of Cross-Cutting Relationships
 - C. The Principle of Original Horizontality
 - D. The Principle of Faunal Succession
16. Which of the following will affect the half-life of a radioactive element?
- A. extreme pressure deep in the Earth
 - B. extreme heat deep within the Earth
 - C. bombardment of Earth by cosmic rays
 - D. the half-life of a radioactive element is invariant
17. The Principle of Original Horizontality states that all rocks are always deposited as horizontal layers.
- A. TRUE
 - B. FALSE

18. Metamorphic processes invalidate radiometric dating methods.
 - A. TRUE
 - B. FALSE
19. Angular unconformities represent gaps in the geologic record of an area.
 - A. TRUE
 - B. FALSE
20. Fossils have proven to be useful as relative dating tools.
 - A. TRUE
 - B. FALSE
21. The point within the Earth where seismic waves originate is:
 - A. the epicenter.
 - B. the fault scarp.
 - C. the origin.
 - D. the focus.
22. P-waves are:
 - A. transverse surface waves.
 - B. compressional body waves.
 - C. tensional surface waves.
 - D. shearing body waves.
23. The fastest seismic waves are:
 - A. P-waves
 - B. S-waves
 - C. Surface Waves
24. The first seismic waves to arrive at a seismic station are:
 - A. P-waves
 - B. S-waves
 - C. Surface waves
25. Which of the following describes the build up and release of stress during an earthquake?
 - A. the Modified Mercalli Scale
 - B. the elastic rebound theory
 - C. the principle of superposition
 - D. the travel time difference
26. The amount of ground displacement in a earthquake is called the _____ .
 - A. epicenter
 - B. dip
 - C. slip
 - D. focus
27. Which of the following sequences correctly lists the different arrivals from first to last?
 - A. P waves ... S waves Surface waves
 - B. Surface waves ... P waves S waves
 - C. P waves ... Surface waves ... S waves
 - D. S waves ... P waves Surface waves

28. How do rock particles move during the passage of a P wave through the rock?
- A. back and forth parallel to the direction of wave travel
 - B. back and forth perpendicular to the direction of wave travel
 - C. in a rolling circular motion
 - D. the particles do not move
29. If only density increases with increasing depth within the Earth, the velocity of a P wave should _____ .
- A. stay the same
 - B. increase
 - C. decrease
30. If a P wave were to go from a solid to a liquid - what would happen to its velocity?
- A. stay the same
 - B. increase
 - C. decrease to 0.0
 - D. decrease
31. If an S wave were to go from a solid to a liquid - what would happen to its velocity?
- A. stay the same
 - B. increase
 - C. decrease to 0.0
 - D. decrease
32. Which boundary marks a change from 100% solid to 100% liquid?
- A. mantle ... outer core
 - B. lithosphere ... asthenosphere
 - C. crust ... mantle
 - D. none of these
33. Body waves consist of the:
- A. P waves only
 - B. S waves only
 - C. P and S waves
 - D. Surface waves
34. With increasing travel time the difference in arrival times between the P and the S waves _____
- A. increases
 - B. decreases
 - C. stays constant
 - D. none of the above
35. Where is the focus with respect to the epicenter:
- A. directly below the epicenter
 - B. directly above the epicenter
 - C. in the P wave shadow zone
 - D. in the S wave shadow zone



36. Point A, where slip initiated during the earthquake, is called the _____.
 - A. dip
 - B. epicenter
 - C. focus
 - D. scarp
37. Point B is called the earthquake _____.
 - A. dip
 - B. epicenter
 - C. focus
 - D. scarp
38. Point C is called the _____.
 - A. epicenter
 - B. fault scarp
 - C. seismic wave
 - D. dip of the earthquake
39. What type of faulting is illustrated in this diagram?
 - A. normal
 - B. reverse
 - C. thrust
 - D. abnormal
40. What is the instrumental record of an earthquake?
 - A. A Seismograph
 - B. A seismic section
 - C. A seismogram
 - D. A seismic record
41. What moves to the left in a left-lateral fault?
 - A. The first arrival
 - B. The far side of the fault
 - C. The near side of the fault
 - D. The hypocenter
42. What is the small tick on a strike-and-dip symbol?
 - A. Degree of dip
 - B. Direction of dip
 - C. Direction of strike
 - D. Perpendicular strike

43. A downdropped block of the crust, bounded by normal faults on each side, is a
- A. horst
 - B. normal block
 - C. graben
 - D. syncline
 - E. anticline
44. In a syncline, the oldest rocks will be found:
- A. on the limbs of the fold.
 - B. near the axis of the fold.
 - C. at the bottom of the fold
 - D. none of these.
45. In an plunging anticline, the fold axis plunges:
- A. very steeply.
 - B. toward the flanks of the fold.
 - C. toward the youngest rocks.
 - D. none of these.
46. A structural basin is a special case of:
- A. a dome.
 - B. a syncline.
 - C. an anticline
 - D. a freak of nature.
47. A fault is observed where the hanging wall is displaced upward relative to the footwall.
- A. This is a normal fault.
 - B. This is a reverse fault.
 - C. This is a left-lateral strike-slip fault.
 - D. This is a right-lateral strike-slip fault.
48. In a syncline, the youngest rocks are on the limbs of the structure.
- A. TRUE
 - B. FALSE
49. In a syncline, all rock layers dip toward the fold axis.
- A. TRUE
 - B. FALSE
50. In a plunging syncline, the structure opens in the direction of plunge.
- A. TRUE
 - B. FALSE