1. The magnitude of an earthquake can be determined from seismograph records. The information needed to do this includes.
A. the time of the quake
B. the frequency of the waves
C. the amplitude of the waves
D. the type of fault motion

2. S-P wave time intervals can be used to determine the
A. distance to an epicenter
B. magnitude of a quake
C. the frequency of waves
D. both A and E. none of the above

3. Gravity anomalies
A. is a german heavy metal band
B. occur during magnetic reversals
C. are strictly high values of gravity
D. can be related to crustal thickness

4. Earthquakes are caused by
A. the high strain rates associated with ductile deformation
B. the sudden release of elastic strain energy stored in rocks.
C. abrupt changes in the geothermal gradient
D. the sudden breaking open of large rifts in the Earth's crust.

5. Along convergent plate boundaries, earthquake foci
A. are located along inclined zones with the deepest quakes nearest the trench
B. are located along inclined zones with the most shallow quakes nearest the trench
C. are all shallow
D. are all deep

6. Along oceanic ridges and continental rifts, earthquake foci
A. are all deep (>40OKm)
B. are all shallow (< 100 KM)
C. are located along inclined zones with the most shallow quakes nearest the ridge or rift center
D. are between 100 and 200 km deep

7. The October, 1989, Loma Prieta earthquake in the San Franciso/Oakland area was a
A. shallow quake
B. intermediate depth quake
C. deep,quake

8. This 1989 quake had a magnitude of 7.0. The amount of energy released during this quake was less than that released in the magnitude 8, quake that struck Alaska in 1964 by a factor of

A. 0.1
B. 8/7
C. 30
D. 1000
E. 2

9.In the case of both earthquakes mentioned above, the damage to buildings was greatest in areas
A. built on unconsolidated sediments
B. built on metamorphic rocks
C. built on high ground
D. built on low ground
E. with cable TV

10. Which of the following has not been considered evidence for continental drift?
A. the apparent continuation of certain large structures such as the Appalachian mountain chain from one continent to another.
B. the simultaneous (with regard to geologic time) occurrence in the fossil record on different continents of certain land animals
C. Rocks of the same age on different continents show the same history of magnetic reversals.
D. the apparent good fit of the margins of continents on either side of the Atlantic Ocean

11. Which of the following mountain belts was not formed by continental collision?
A. Andes
B. Appalachians
C. Himalayans
D. Urals

12. Devonian age (360 million years old) volcanic rocks in Nova Scotia have magnetic inclinations between 0 and 6 degrees. This might be interpreted to indicate that during the Devonian
A. the magnet field was very weak
B. Nova Scotia was closer to Europe
C. Nova Scotia was much closer to the north pole than it is now.
D. Nova Scotia was much closer to the equator than it is now.

13. In old mountain belts, the suture, or line that marks the boundary along which colliding continents became joined can be approximately located by careful study of certain geologic features. Which of the following features are not useful for this?
A. cross bedded sandstone
B. ophiolites
C. fossil assemblages
D. melanges

14. The active ridges are the highest areas of the ocean basins because
A. They are the oldest
B. They are highly folded
C. They contain the thickest accumulation of sediments
D. They are the warmest
E. The crust there is basaltic and thus less dense

15. The age of the crust of ocean basin
A. increases with increasing distance from the ridges
B. decreases with increasing distance from the ridges
C. is everywhere older than continental crust
D. A and C

16. Subduction is a process by which oceanic crust and lithosphere is recycled into the asthenosphere.This subduction always occurs along
A. oceanic ridges
B. oceanic trenches
C. transforms
D. Rifts

17. In which of the following materials is the velocity of P waves the greatest? (hint: disregard differences in densities)
A. clay
B. water
C. air
D. steel
E.rubber

18.In which of the materials above do P waves travel with the slowest velocity? (hint: disregard differences in densities)
B. water

19. Methods to monitor the buildup strain along earthquake generating faults is one attempt at forecasting. These methods include
A. the use of strain meters
B. careful surveying across faults
C. measuring ground level
D. all of the above
E. none of the above

20. Evidence that the Earth's outer core is liquid i
A. The temperature is too high for solids to exist
B. The density is too low to be a solid
C. It is too compressible to be a solid
D P wave velocities are too high\