Relative Dating and Stratigraphic Principles Quiz

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

1. If we see a layer of sedimentary rock that has a fault cutting through it as well as a dike that cuts through both the bed and the fault, we can use the principle of cross-cutting relationships to infer:
   a. the sedimentary rock layer formed first, then the dike, then the fault
   b. the fault formed first, then the sedimentary rock layer, then the dike
   c. the sedimentary rock layer formed first, then the fault, then the dike
   d. no age sequence can be inferred from this information
   e. the fault formed first, then the dike, then the sedimentary rock layer

2. A rock body that contains fragments of another rock body must be older than the fragments of the rock it contains describes the principle of -
   a. original horizontality
   b. fossil succession
   c. inclusion
   d. cross-cutting relationships
   e. superposition

3. What is the correct sequence of events, from earliest to most recent?
   a. C formed through sedimentation, A intruded upon C, B cut across both A and C.
   b. C formed through sedimentation, B cut across C, and A formed through the intrusion of magma.
   c. layer A formed from inclusion, B cut across A, and C was formed by sedimentation.
   d. All three rock layers formed at the same time.
   e. B formed through sedimentation, followed by C, and A - also through sedimentation.

4. Which two stratigraphic principles are demonstrated in the geologic column shown above?
   a. inclusion, and original horizontality
   b. lateral continuity, and faunal succession
   c. superposition, and cross-cutting relationships
   d. original horizontality, and superposition
   e. cross-cutting relationships, and inclusion
5. Which two stratigraphic principles can be used to determine the relative order of the formation of the rock layers shown in the geologic column above?
   a. cross-cutting relationships, and superposition
   b. Superposition and original horizontality
   c. inclusion, and cross-cutting relationships
   d. original horizontality, and inclusion
   e. faunal succession and cross-cutting relationships

6. Which of the following answer choices correctly describes the age (from youngest to oldest) of the strata in the diagram above?
   a. C, E, D, B, A
   b. A, B, C, D, E
   c. B, E, C, A, D
   d. A, B, D, E, C
   e. B, A, D, B, O, Y
7. Study the cross-section above. Which of the following choices represent the oldest rock layer?
   a. A
   b. B
   c. C
   d. D
   e. E

8. Study the cross-section above. Which of the following choices represent the most recent rock layer?
   a. L
   b. K
   c. A
   d. C
   e. B

9. Study the cross section above. Which of the following is the most likely cause of the both unconformity between layers A, B, and D, and the unevenness of the present land surface?
   a. tilting
   b. eruption
   c. effects of heat and pressure
   d. erosion

10. "A fault is always younger than the rock it cuts through" defines the:
    a. Principle of Cross-Cutting Relationships
    b. Principle of Fossil Succession
    c. Principle of inclusion
    d. Principle of Lateral Continuity
    e. Principle of Original Horizontality
11. If we see a sedimentary bed (rock layer) that has a dike cutting through it as well as a fault that cuts through both the bed and the dike, we can use the principle of cross-cutting relationships to infer:
   a. the bed formed first, then the dike, then the fault
   b. the bed formed first, then the fault, then the dike
   c. the fault formed first, then the bed, then the dike
   d. no age sequence can be inferred from this information
   e. the dike formed first, then the bed, then the fault

12. In stratigraphy, the principle of superposition states that:
   a. a sedimentary bed is younger than the bed above it and older than the bed below it
   b. all sedimentary beds start off being horizontal
   c. all sedimentary beds are separated by bedding planes
   d. a sedimentary bed must be older than any feature that cuts through it or disrupts it
   e. a sedimentary bed is older than the bed above it and younger than the bed below it

13. Relative dating is -
   a. Using radioactive isotopes to date rock layers
   b. Determining the numerical age of a geological event
   c. Going to the movies with your cousin
   d. Determining the order or sequence in which geologic events took place

14. Which choice represents the oldest and most recent (respectively) features in the geologic column shown above?
   a. E and G
   b. I and G
   c. G and E
   d. G and I
   e. B and E

15. Consider rock layers C, A, F, and fault B in the diagram of the geologic column shown above. Which event occurred most recently?
   a. layer A formed through the process of sedimentation
   b. Fault C cut through layers A, C, and B
   c. Layer C formed through the process of intrusion.
   d. Layer F was deposited on layer A
   e. Fault B cut through layers F, A, and C