Assignment is due by the beginning of class on Friday, November 5. Please answer all of the questions below in the answer blanks provided. The procedure for doing this assignment was discussed in lecture on Oct 27-29 and is further described below and in the textbook. This is an individual assignment. Please take the time to do this assignment well. Midterm #3 will include a problem very similar to these that will constitute a large proportion of the points.

***STAPLE YOUR PAGES TOGETHER - there will be a point deduction for not stapling

For each of the following geologic cross sections answer the questions that follow. Assume that all rock units are sedimentary rocks unless labeled otherwise. Remember that granite and diorite are intrusive igneous rocks, and that dikes are igneous intrusions as well. Faults appear as straight lines, marked with arrows (arrows are missing on section 2; see below). Unconformities are denoted with wavy, zig-zag lines. In each section, the present ground surface is marked with a pine tree. Small portions of rock units completely enclosed by other rock units are examples of inclusions.
1) Place the geologic features (rock formations, faults, unconformities) labeled A through O in their proper sequence from the last (most recent) to the first (earliest) in the spaces provided below

___ most recent

___

___

___

___

___

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___

___

___ earliest
2) What specific type of unconformity is represented by feature E?

______________

What specific type of unconformity is represented by feature F?

______________

What specific type of unconformity is represented by feature G?

______________

3) When was rock unit H (and the adjacent units) tilted?

   Between events _____ and ______

4) What type of faults are features N and C (be as specific as possible)?
1) Place the geologic features (rock formations, faults, unconformities) labeled A through I in their proper sequence from the last (most recent) to the first (earliest) in the spaces provided below

___ most recent
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___
___

___ earliest

2) Place arrows on the fault (J) to denote the relative sense of movement (as shown for faults N and C in cross section #1).

What type of fault is J?
3) If dike D has been radiometrically dated to 14 Ma, diorite C is 35 Ma, and granite G is 42 Ma, what constraints can you place on the absolute ages of the following features?

F ____________

J ____________

A ____________
CROSS SECTION #3

Place the geologic features (rock formations, faults, unconformities) labeled A through R in their proper sequence from the last (most recent) to the first (earliest) in the spaces provided below

___ most recent
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___
___
___
___
___
___
___
___ earliest