Name: _____

Some comments

This is obviously quite different. For this exam, **due via email May 6th**, you have access to all of your notes, my recorded lectures, your textbook, and the entirety of Google.

You also have unfettered access to one another. Use everything at your disposal, especially your fellow students. I expect lively discussion on the forum regarding these questions! Indeed, your final participation grade will be based on your discussion of this exam!

Below are your questions. Each of you will turn in your own answers to the questions, but again, you're free to discuss them on the forum. Now, considering your access to literally everything, some of these questions may require you to research a bit. That's what the posts have (hopefully) been preparing you for! I'm expecting great performance on this test.

You will turn this in by sending me one email with two attachments: a Word document with the answers typed in it, and also a PowerPoint (or PDF) for the relevant question.

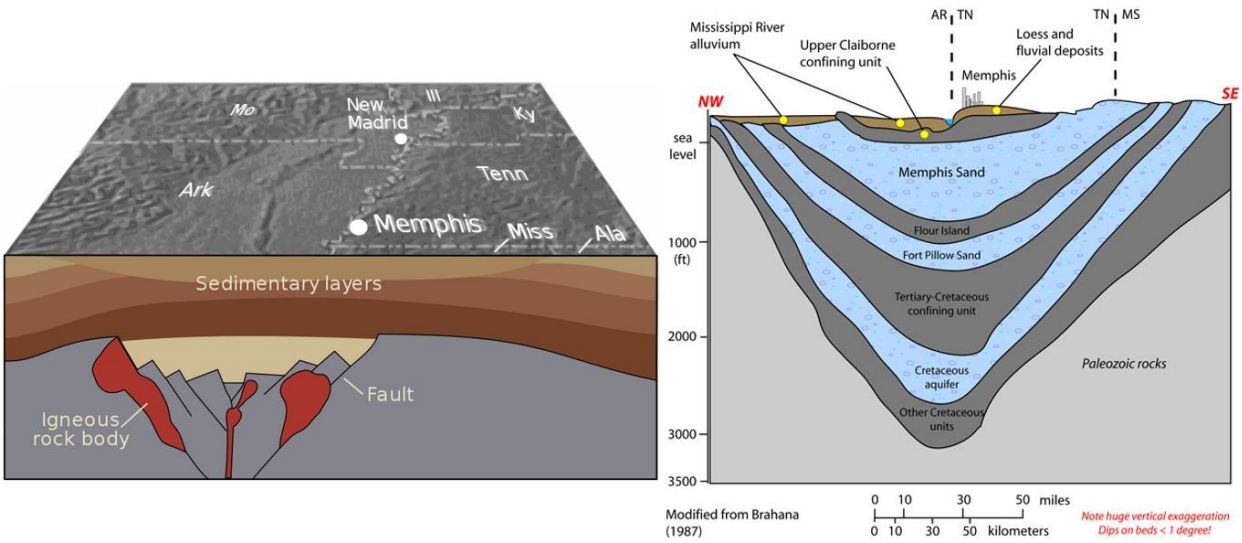
Good luck!

Questions

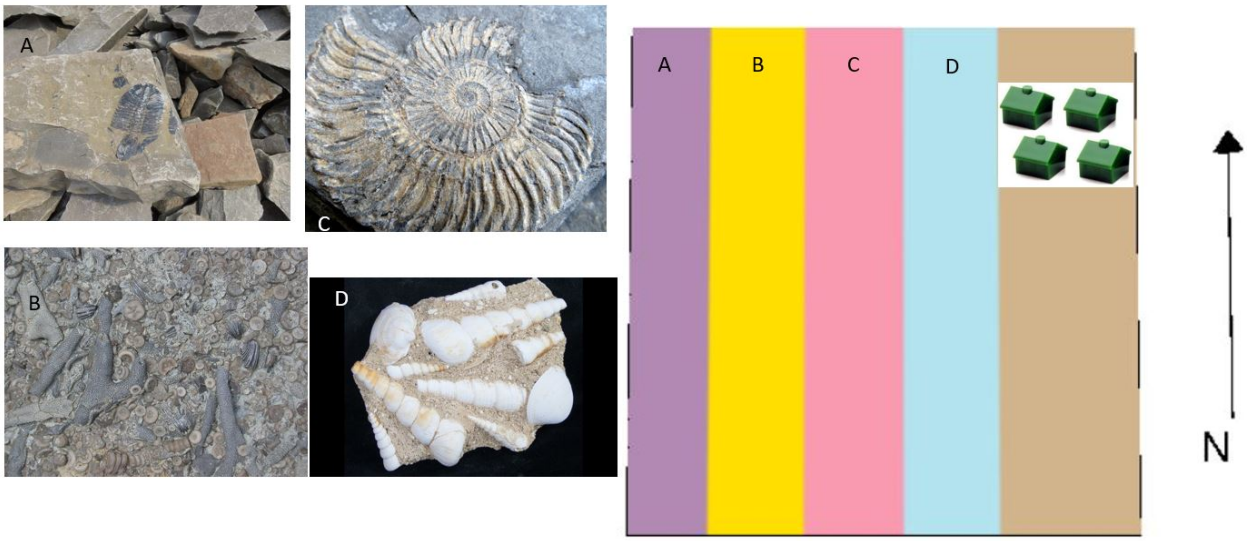
1. (5) I want you to make five PowerPoint slides. Choose some topic that either (1) I went over, but you didn't understand or (2) that you wish I'd gone over in much greater detail or otherwise covered. Make the slides and include in the Presenter Notes all of the information that should be said aloud while presenting these slides.

2. (3) In 50 words or fewer, describe how you can use the physical and chemical properties of a sedimentary rock to understand the environment in which it formed.

3. (3) *Your 4 year old niece and you are at the beach. She asks you where the sand comes from.* This answer is meant for a five-year-old. So use the tool available here (https://xkcd.com/simplewriter/) to compose your answer and remove any words it dislikes. Then copy that simpleword-approved answer into your Word document to turn in. There's no explicit word limit, but 4-year-olds are flighty, so you should try and be as succinct as you can be, while still being accurate and thorough (I think this may be the hardest question on the exam).



4. (5 points) *Above is a pair of cross sections: a super deep one (left) and a marginally deep one (right).* Use whatever resources you can find to write up a short (¡100 words) description of geological events that have occured over time in this region to produce the rock layers, structures, and types visible in these images. A perfect answer should serve as both an acceptable figure caption and also discuss the risks and benefits conferred on the region by those ancient events.



5. (4 points) *Above is a base geological map provided to you by an employer. They're wondering about the potential for sinkholes to form beneath their proposed housing development (indicated on the map). They provide you with four rock samples from the nearby beds.* (a) What is the order of rocks from oldest to youngest? (b) Which of the rock samples is most prone to forming sinkholes? (c) Assume layer C is 20 meters thick, recall the Pythagorean theorem, and tell me the strike and dip (with dip angle) of these beds (nota bene: draw a cross section on some scratch paper and be as precise as possible with angles; will make part d trivial too) (d) Use your knowledge of geology to tell me how far below the housing development the most sinkhole-prone layer is.