Questions to be answered by a few words or numbers (2 points each)

Briefly define the following term: Sediment Regime
The amount and size of material delivered from both hillslopes and upstream.

What are the primary distinguishing characteristics of mountain rivers?
Steep, Coarser, Low Width to Depth ratio, Rougher

Who drew the first contour map?
Leonardo da Vinci

The Earth is composed of two predominant surfaces. One is a land surface with a mean elevation just above sea level. Ultimately much river sediment reaches the other surface, which is the deep-sea floor. What is the approximate depth of the deep-sea floor?
3000-6000 m

The Earth's land surface produces sediment for beaches and to fill the rest of the ocean. Approximately what fraction of the Earth's surface is land?
30%

What is the predominant source of lithogenic sediment found at high latitudes?
Glaciers

Questions to be answered by a few sentences (5 points each)

Describe the primary constituents of a river's load?
water, sediment, dissolved material, and organic matter; **OR**
suspended load, bedload, dissolved load, & organic matter

Rivers transport particulate and dissolved materials to oceans. The dissolved material can be transformed into solid sediment particles. Describe the two general types of processes by which dissolved material is transformed into marine sediment.
The formation of biogenic sediments is a process by which plants and animals in the ocean take dissolved materials and create their skeletons. When they die, their skeletons break into pieces and become sediment particles.
The formation of authigenic sediments is a process by which inorganic precipitation occurs from dissolved materials in seawater. Oversaturation of seawater with regard to some chemical components causes formation of sediments such as manganese nodules.

Explain why sea level was lowered during cold periods of the Earth's climate.
During cold periods, much of the precipitation falling on land is snow and remains to form thick sheets of glacial ice (miles thick). Water continues to evaporate from the ocean, but does not flow back due to its retention in ice sheets. This causes sea level to fall. In addition, cold temperatures cause ocean water to contract.

Water supplied by rivers has an important difference in density compared to Puget Sound water. Which is denser and explain its cause.

The freshwater flowing in from rivers has a salinity of 0 parts per thousand (ppt), which is less dense than the brackish water of Puget Sound with a salinity of 20-30 ppt. Consequently, the river water flows above the denser water in Puget Sound.