Review Questions Topic 13: Introduction to Earthquakes

What are the names we give to energy propagating when it goes through water, solids, and gas, respectively?

What are the four major sources of NATURAL earthqakes?

What is the difference between earthquake causes and triggers? Give some examples

Describe and explain all the different settings/sources of tectonic earthquakes

What are intraplate quakes and how are these possible?

Explain the difference between stress and strain

Explain the difference between elastic, ductile, and brittle deformation

Explain how elastic deformation builds up in rocks

Define: ray path, epicenter, wave front, focus

What is the particle motion for shear waves, orbital waves, and compressional waves?

What are the four types of seismic waves and what types of waves are they?

What is the difference between body waves and surface waves?

Explain how ray path analysis was used to detect the outer core

Explain why ray paths curve (be sure you know which way depending on what they move through)

What significance does the fact that different seismic waves travel at different velocities have to earthquake warnings?

Explain how the ground shakes beneath a building for each of the four types (S, P, R, L) of waves

Explain and draw a simple seismograph

What is the minimum number of seismic stations that are needed to figure out where the earthquakes epicenter was?

Explain how P-Wave and S-Wave arrivals are used in early warning systems