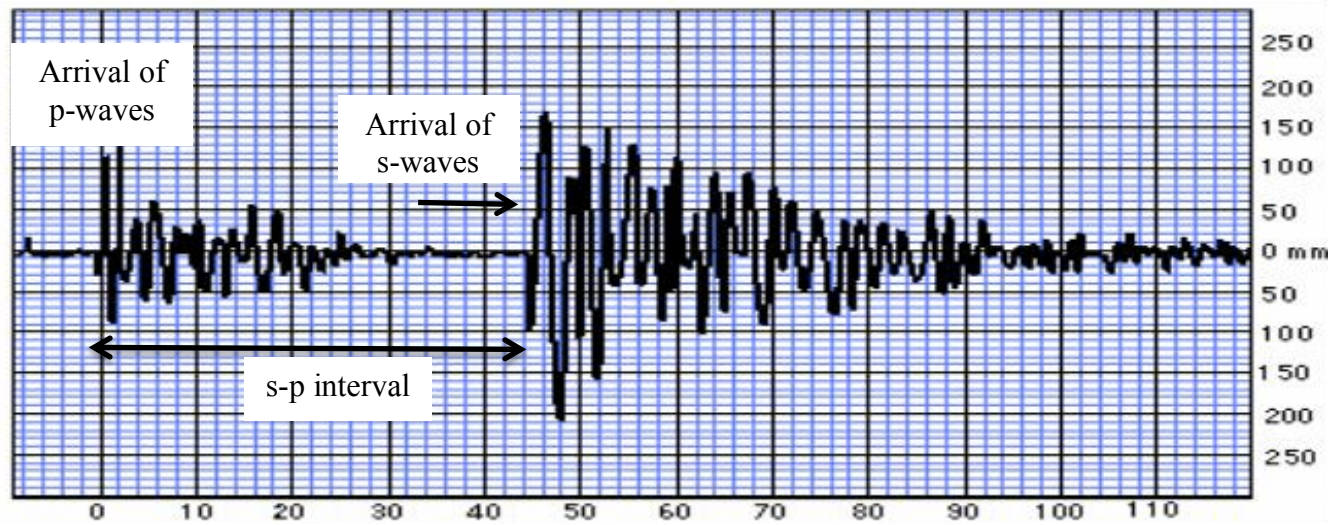


Name: _____

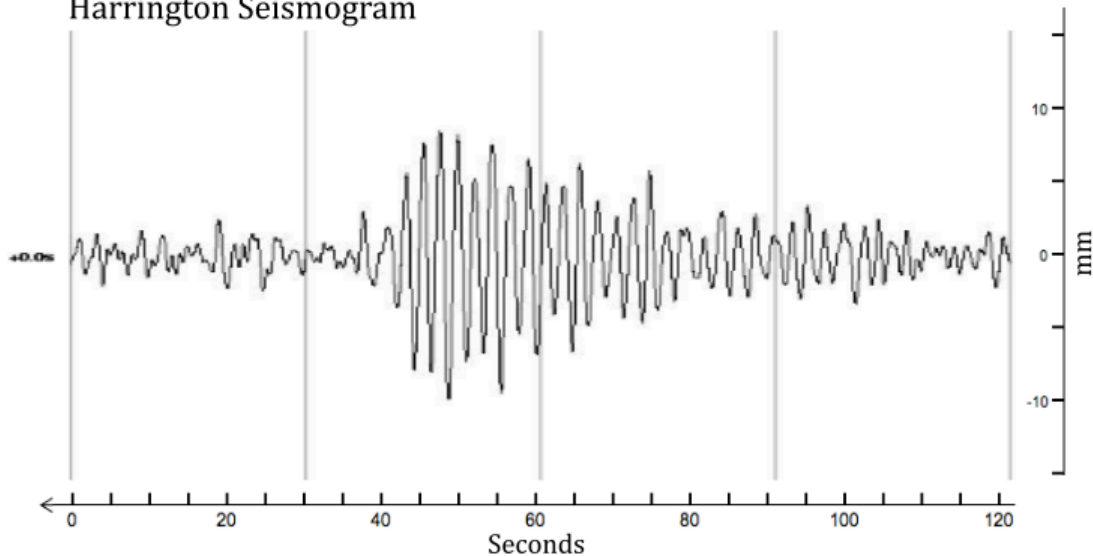
Emergency Disaster Pod PBL

Finding the Epicenter and Magnitude of an Earthquake



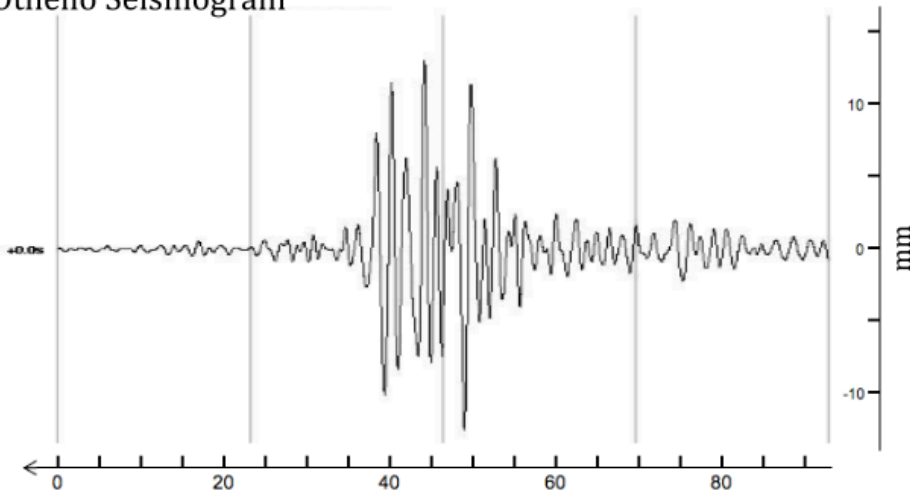
1. An earthquake has occurred in Washington State. You have the following seismograms from three locations in Washington State. Identify the s – p interval, the time it takes for the s-waves to arrive at the seismograph after the arrival of the p-waves.

Harrington Seismogram



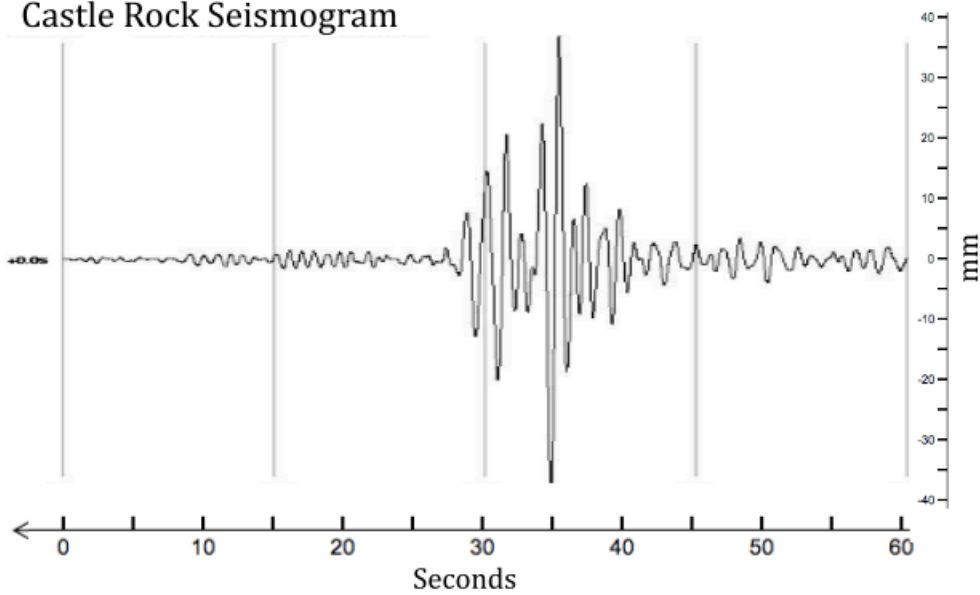
Harrington s – p
interval = _____ sec

Othello Seismogram



Othello s – p
interval = _____ sec

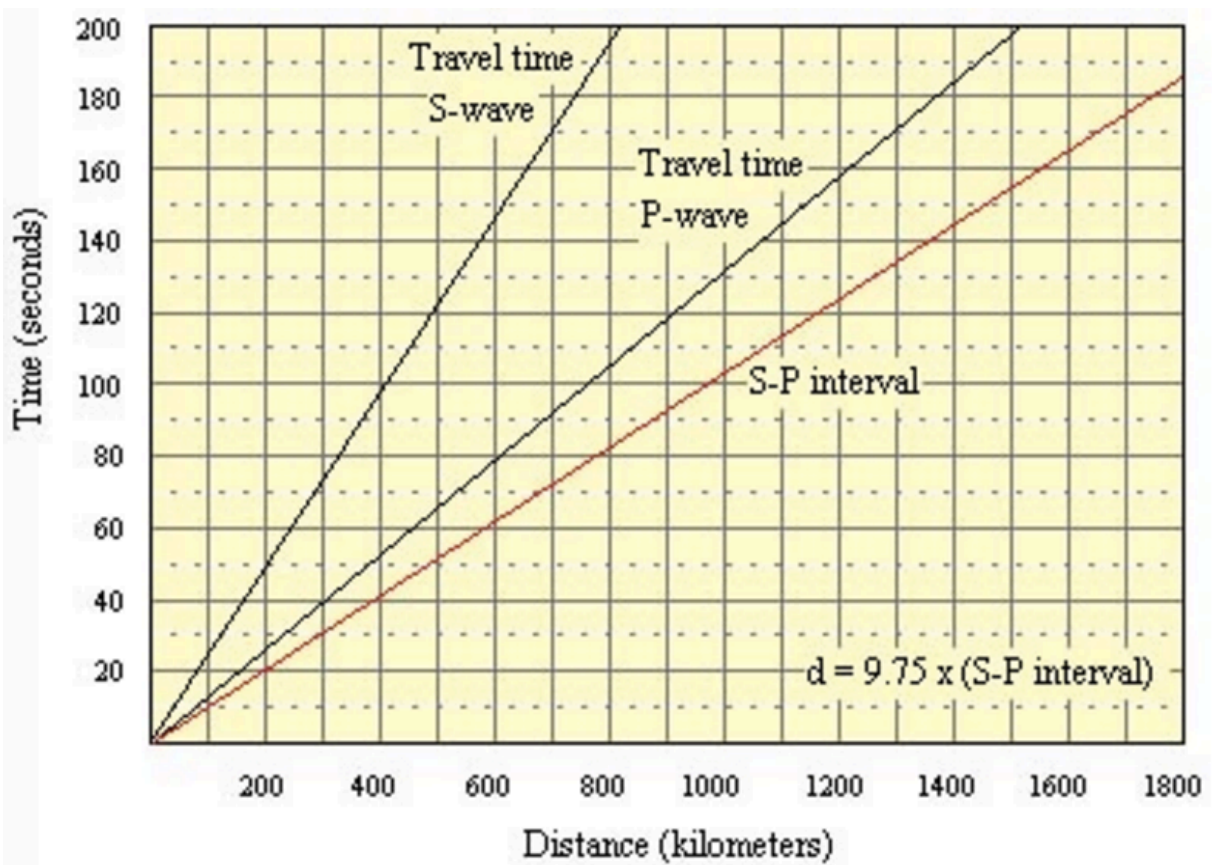
Castle Rock Seismogram



Castle Rock s - p

interval = _____ sec

2. The graph below shows the time in seconds it takes to travel a certain distance in kilometers. Use your responses from above to approximate how far the seismograph is from the epicenter of the earthquake.

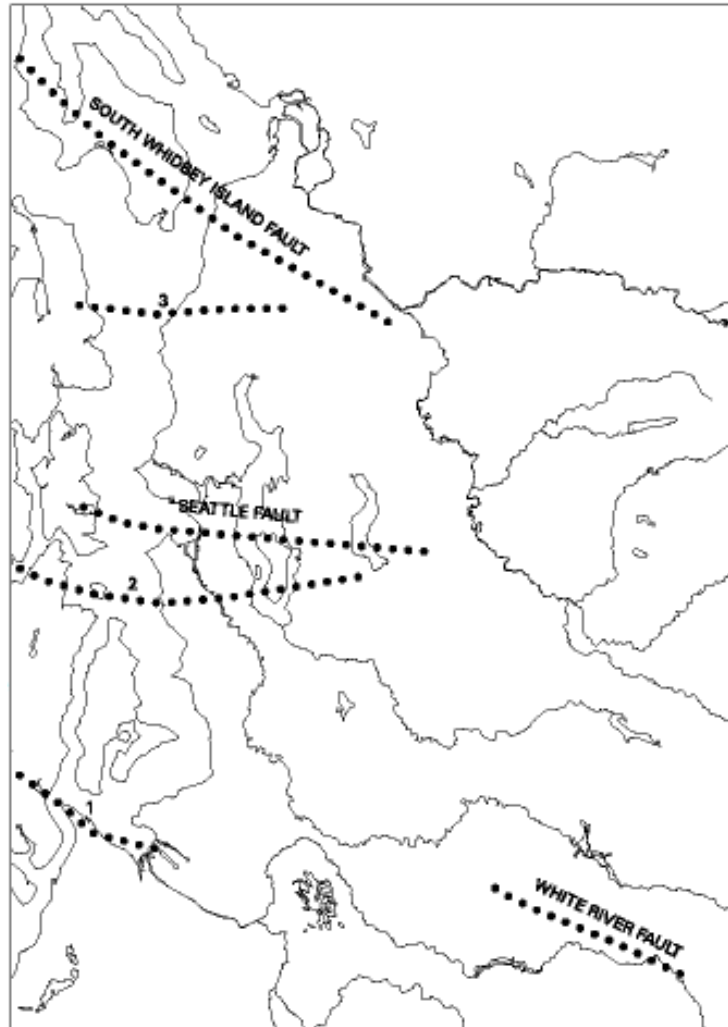


Harrington _____ km

Othello _____ km

Castle Rock _____ km

3. On the map provided map of Washington State, draw circles from each of the seismographs using the distance as your radius. You may not be able to draw the entire circle on the map but all of the circles should intersect.
4. Where do the circles intersect? _____
This is the epicenter of the earthquake.



5. Does the earthquake appear to have occurred on or near a fault line in western Washington state? If yes, which one?

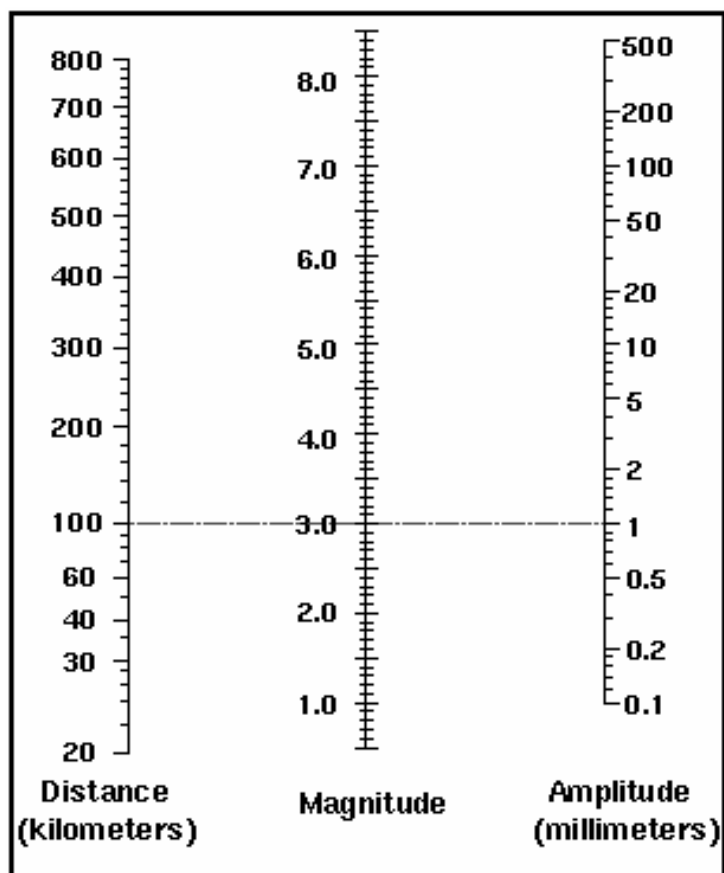
6. Go back to the seismograms on pages 1 and 2. What is the amplitude of the largest s-wave?

Harrington _____ mm

Othello _____ mm

Castle Rock _____ mm

7. Use the Richter Scale below to determine the magnitude of the quake. You simply draw a line connecting the distance found in question 2 to the amplitude found in question 6. These three lines should intersect.



What is the approximate magnitude of the earthquake? _____