

Lab 20: Finding Epicenters *Name: _____*

PROCEDURE A:

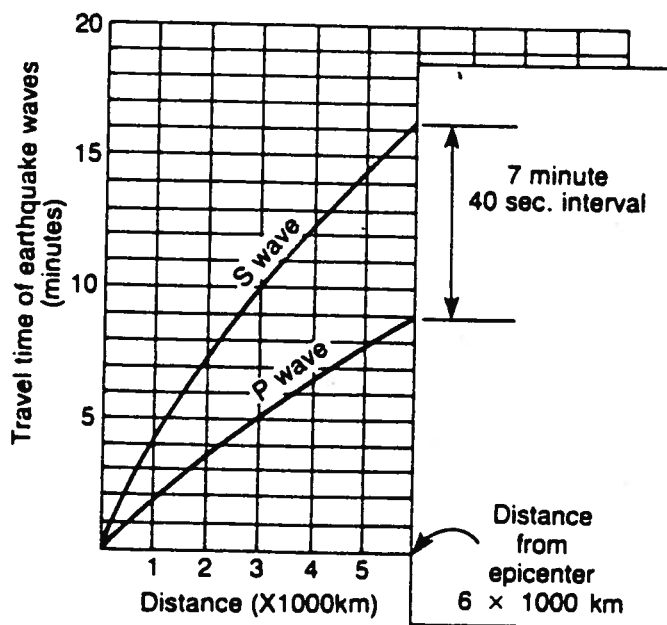
The diagram, Finding Epicenters, illustrates the method of using the difference in arrival times of P and S waves to determine the distance to the epicenter. Using the three seismograms provided and the "Earthquake P-wave and S-wave Time Travel" graph in the *Ref. table* calculate the following for each city: (Enter on the Report Sheet.)

1. The arrival times for P and S waves.
2. The difference in the arrival time between P and S-waves.
3. The distance (in km) of the epicenter from each city.
4. The length of time it took for the P-wave to travel from the epicenter to each city.
5. Since you now know when the P-wave arrived at a city and how long it had to travel, calculate the time at which the P-wave started. (Origin Time).

PROCEDURE B:

1. a. To locate the epicenter on the map, for each city construct a circle whose radius is equal to the distance from the city to the epicenter.
b. Use the scale of distance of your map to set the drawing compass at the correct radius.
2. Mark and label the epicenter on the map where all three circles intersect.

FINDING EPICENTERS



This illustration is not to scale. Use the "Earthquake P-wave and S-wave Travel Time" graph in the Appendix for the procedure.