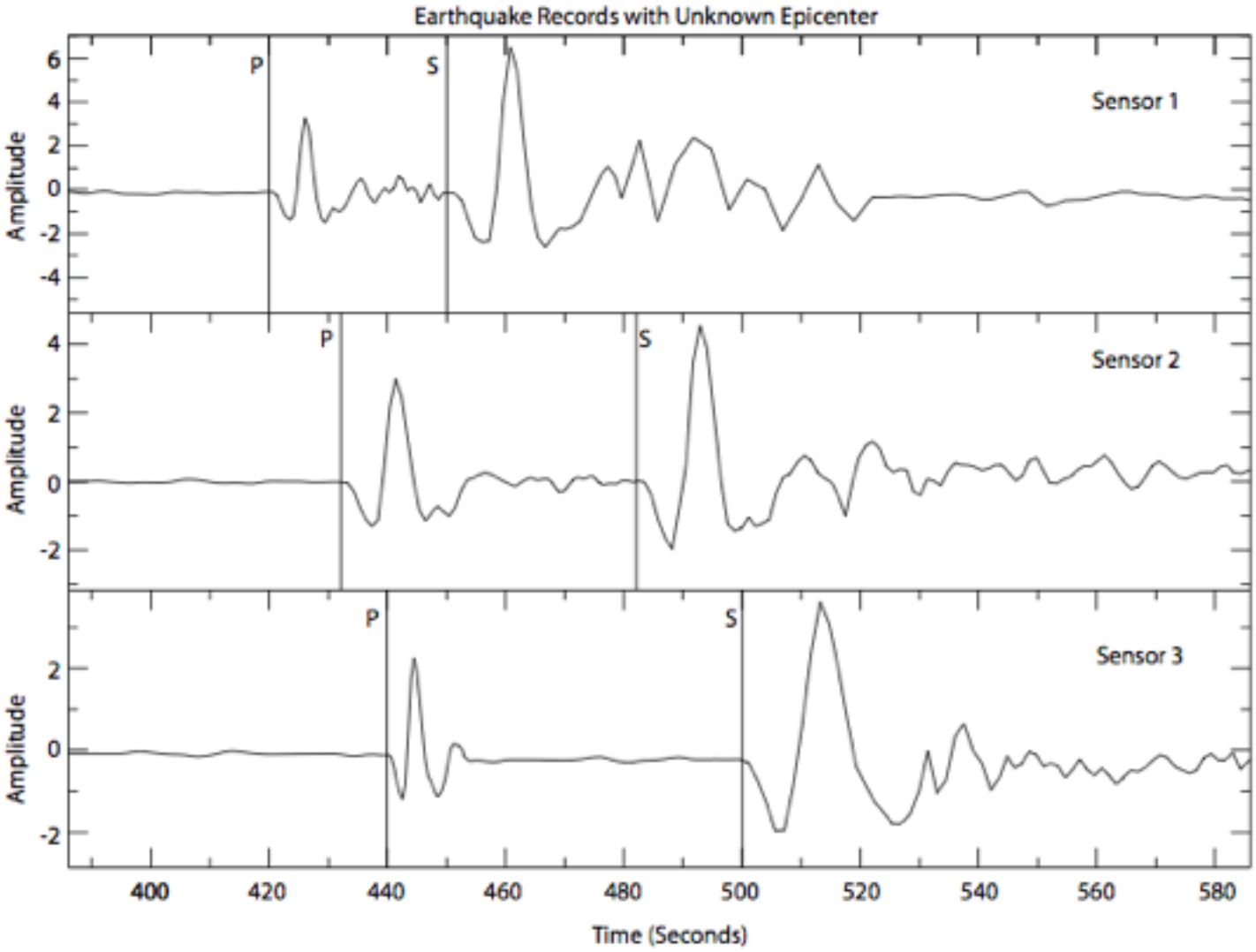
Name _____ Date _____ Period _____

Seismic data:



Data: Table 1:

	Arrival time of the p-waves	Arrival time of the s-waves	Difference in time between the p- and s-waves	Difference in time x 8 km/sec	Distance of epicenter from station (km)
Station 1 (sensor 1)				x 8	
Station 2 (sensor 2)				x 8	
Station 3 (sensor 3)				x 8	

Name _____ Date _____ Period _____

Table 2:
Using the distance from the epicenter to the station (table 1), calculate the radius in inches of each circle. *Do not round any of your answers.*

	Distance of epicenter from station (km)	Convert distance to inches (150 km = 1 in)	Radius of the circle (inches)
Station 1 (sensor 1)		÷ 150	
Station 2 (sensor 2)		÷ 150	
Station 3 (sensor 3)		÷ 150	

Analysis questions:

1. How are earthquakes produced?

2. What drives plate tectonics?

    a. What is the source of energy? (*Look at your response to question 2. What produces the energy to create the driving force for plate tectonics?*)

3. Can the exact location of an epicenter be located by only 1 seismic station? Thoroughly explain.

4. Can the exact location of an epicenter be located by 2 seismic stations? Thoroughly explain.

5. Can scientists predict when an earthquake or volcanic eruption will occur? Thoroughly explain. (*predict: provide advanced warning that an event will occur)*

6. Which type of seismic wave travels faster through Earth's crust and is bent by the inner core?

7. Which type of seismic wave cannot pass through a liquid, and is confined only to the crust and mantle?

8. Which type of seismic wave cannot pass through Earth's interior?

Name _____ Date _____ Period _____

Triangulation of an epicenter 3