Directions: For the problems below use the following steps to fill in the unknowns.

1. Determine the “Time Difference” between the arrival of the P-wave and S-wave.
2. Mark the “Time Difference” on scrap paper.
3. Fit the “Time Difference” marks from your scrap paper between the P-wave and S-wave curves using your Earth Science Reference Tables.
4. When the marks fit perfectly, look down to get the “Epicenter Distance” and record your answer in the space provided.
5. Use the chart to determine the “P-wave Travel Time” and record your answer in the space provided.
6. Determine the “Origin Time” by subtracting the “P-wave Travel Time” from the “P-wave Arrival Time”.

QUESTION 1

Earthquake Epicenter

Epicenter Distance: _____________ km

P-wave Travel Time: ________________

Origin Time: ________________

Time Difference: ________________

QUESTION 2

Earthquake Epicenter

Epicenter Distance: _____________ km

P-wave Travel Time: ________________

Origin Time: ________________

Time Difference: ________________
Supplemental: Locating Epicenters I

**QUESTION 3**

Earthquake Epicenter → Epicenter Distance: ______________ km → Seismic Station

P-wave: 06:13:40
S-wave: 06:19:00

Origin Time: ______________

P-wave Travel Time: ______________

Time Difference: ______________

**QUESTION 4**

Earthquake Epicenter → Epicenter Distance: ______________ km → Seismic Station

P-wave: 23:55:30
S-wave: 23:57:20

Origin Time: ______________

P-wave Travel Time: ______________

Time Difference: ______________

**QUESTION 5**

Earthquake Epicenter → Epicenter Distance: ______________ km → Seismic Station

P-wave: 14:05:00
S-wave: 14:10:00

Origin Time: ______________

P-wave Travel Time: ______________

Time Difference: ______________