Earthquakes #2

Name: _____ Date: _____ Period: ____

1. How far from an earthquake epicenter is a city where the difference between the *P*-wave and *S*-wave arrival times is 6 minutes and 20 seconds?
   1) 1.7×10^3 km 3) 3.5×10^3 km
   2) 9.9×10^3 km 4) 4.7×10^3 km

2. The epicenter of an earthquake is 6,000 kilometers from an observation point. What is the difference in travel time for the *P*-waves and *S*-waves?
   1) 7 min 35 sec 3) 13 min 10 sec
   2) 9 min 20 sec 4) 17 min 00 sec

3. An earthquake's *P*-wave arrived at a seismograph station at 02 hours 40 minutes 00 seconds. The earthquake's *S*-wave arrived at the same station 2 minutes later. What is the approximate distance from the seismograph station to the epicenter of the earthquake?
   1) 1,100 km 3) 3,100 km
   2) 2,400 km 4) 4,000 km

4. What is the approximate difference in arrival times of the *P*-waves and the *S*-waves at a seismographic station that is 3,000 kilometers from an earthquake epicenter?
   1) 2 min 15 sec 3) 4 min 30 sec
   2) 3 min 40 sec 4) 5 min 40 sec

5. A seismic station recorded the arrival of a *P*-wave at 10:00:00 a.m. The *S*-wave arrival was recorded at 10:04:20 a.m. What is the approximate distance between the earthquake epicenter and the seismic station?
   1) 1.1×10^3 km 3) 2.9×10^3 km
   2) 2.2×10^3 km 4) 7.2×10^3 km

6. A seismic station receives a *P*-wave at 12:07 a.m. and an *S*-wave at 12:12 a.m. The station's distance from the epicenter is approximately
   1) 2,600 km 3) 4,000 km
   2) 3,400 km 4) 8,800 km

7. A seismograph station recorded the arrival of the first P-wave at 7:32 p.m. from an earthquake that occurred 4000 kilometers away. What time was it at the station when the earthquake occurred?
   1) 7:20 p.m. 3) 7:32 p.m.
   2) 7:25 p.m. 4) 7:39 p.m.

8. An earthquake's *P*-wave traveled 4,800 kilometers and arrived at a seismic station at 5:10 p.m. At approximately what time did the earthquake occur?
   1) 5:02 p.m. 3) 5:10 p.m.
   2) 5:08p.m. 4) 5:18 p.m.

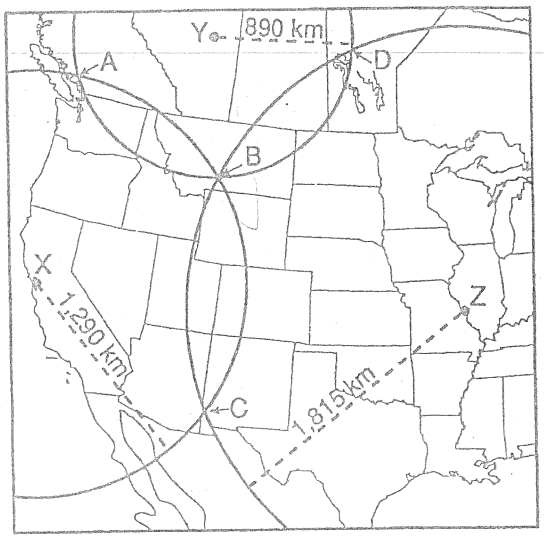
9. A seismographic station determines that its distance from the epicenter of an earthquake is 4,000 kilometers. If the *P*-wave arrived at the station at 10:15 a.m., the time of the earthquake's origin was
   1) 10:02 a.m. 3) 10:10 a.m.
   2) 10:08 a.m. 4) 10:22 a.m.

Earthquake Practice

0. A seismograph station 3×10^3 kilometers from an epicenter received *P*-waves at 3:33:00 in the afternoon. What was the origin time of the earthquake?
   1) 3:03:00 p.m.
   2) 3:27:20 p.m.
   3) 3:28:40 p.m.
   4) 3:38:40 p.m.

1. If a seismograph recording station located 5,700 kilometers from an epicenter receives a *P*-wave at 4:45 p.m., at which time did the earthquake actually occur at the epicenter?
   1) 4:24 p.m.
   2) 4:29 p.m.
   3) 4:36 p.m.
   4) 4:56 p.m.

12. The circles on the map below show the distances from three seismic stations, *X*, *Y*, and *Z*, to the epicenter of an earthquake.



Which location is closest to the earthquake epicenter?
1) *A*
2) *B*
3) *C*
4) *D*