

Name: _____ Due: _____

196

S and P waves

You need:

- ESRT pg 11
- Scrap paper

1. P wave arrival: 9:34:50 pm
S wave arrival: 9:39:45 pm

Time difference: _____

2. P wave arrival: 2:04:25 am
S wave arrival: 2:08:00 am

Time difference: _____

3. P wave arrival: 10:51:20 pm
S wave arrival: 10:55:30 pm

Time difference: _____

4. check your answers to #1 - #3 in the **ANSWERS** box on the back of this page. If any of your answers are wrong, investigate to find out why before going on.

↓
DRAW A checkmark (✓) next
to correct answers.
DRAW AN X next to
incorrect answers.

5. P wave arrival: 4:36:30 pm
S wave arrival: 4:43:15 pm

Time difference: _____

6. P wave arrival: 7:24:20 am
S wave arrival: 7:27:50 am

Time difference: _____

7. S waves travel _____ km in 11 minutes 40 seconds.

8. P waves travel _____ km in 9 minutes 40 seconds.

9. P waves take _____ min _____ sec to travel 8800 km.

10. P waves take _____ min _____ sec to travel 4200 km.

11. S waves take _____ min _____ sec to travel 7400 km.

12. S waves travel _____ km in 17 minutes 00 seconds.

13. The S waves arrived 7 min 20 sec after the P waves. The distance to epicenter is: _____ km

14. P wave arrival: 3:41:20 am
S wave arrival: 3:49:40 am

Time difference: _____

Distance to epicenter: _____

15. P wave arrival: 11:04:50 am
S wave arrival: 11:06:30 am

Time difference: _____

Distance to epicenter: _____

16. P wave arrival: 6:40:40 am
S wave arrival: 6:47:20 am

Time difference: _____

Distance to epicenter: _____

17.

Difference in arrival
of P and S waves

Distance from epicenter

18. **Honors:** _____ S waves arrived at the seismic station 5 min 20 sec after the P waves. Find the distance to the epicenter.

19. **Honors:** P wave arrival: 01:13:00 pm
S wave arrival: 01:22:20 pm

Try to figure this out: At what time did the earthquake occur? _____

20. **Honors:** Given: S waves arrived at a seismic station in Columbus, OH at 12:45:35 pm.
Given: The epicenter of the quake is 5800 km from Columbus, OH.

Find the arrival time of the P waves: _____

Find the time the earthquake occurred: _____

21. **Honors:** _____ An earthquake occurred 7600 km from the Sweeney Seismic Station in Madison, WI. The earthquake occurred at 8:26:10 am. At what time did the S waves arrive at this seismic station?

ANSWERS!

1. 4 min 55 sec
2. 3 min 35 sec
3. 4 min 10 sec

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