

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Period: \_\_\_\_\_

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## Packet: Earthquakes and Hazards

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### CLASS NOTES

- Largest earthquake in the world:
  - Location: \_\_\_\_\_
  - Date: \_\_\_\_\_
  - Magnitude: \_\_\_\_\_
  - Deaths: \_\_\_\_\_
  - Duration: \_\_\_\_\_
  - The tsunami hit Hawaii 14 hours after the earthquake and killed \_\_\_\_\_ people
  
- Largest earthquake in the US:
  - Location: \_\_\_\_\_
  - Date: \_\_\_\_\_
  - Magnitude: \_\_\_\_\_
  - Deaths: \_\_\_\_\_
  - Duration: \_\_\_\_\_
  - The tsunami hit Valdez Harbor almost instantly and killed \_\_\_\_\_ people
  
- Earthquake Hazards:
  - Fissure - \_\_\_\_\_  
\_\_\_\_\_
  - Liquefaction - \_\_\_\_\_  
\_\_\_\_\_
  - Landslides - \_\_\_\_\_  
\_\_\_\_\_

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- Earthquake Hazards [continued]:

- Tsunami [harbor wave] - \_\_\_\_\_  
\_\_\_\_\_

- Emergency Preparedness:

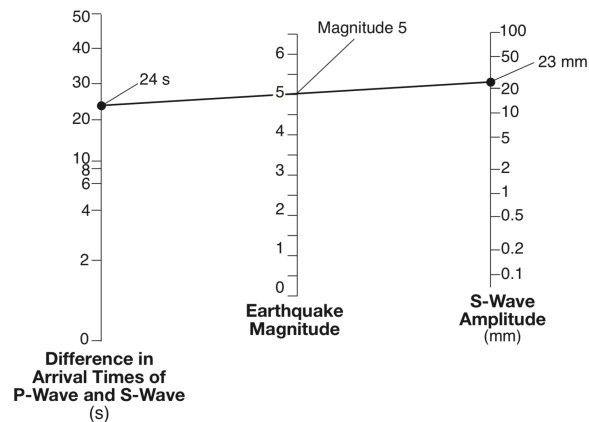
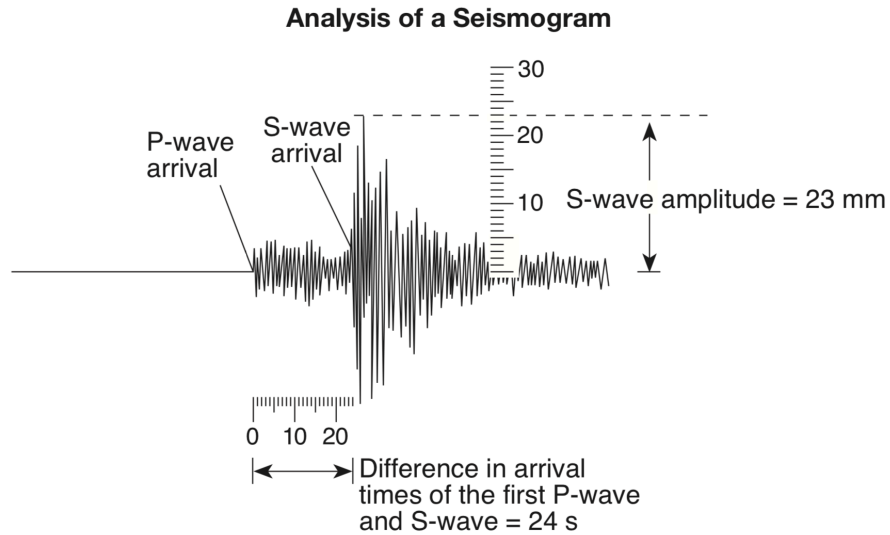
- What do you do if there is an earthquake?

- What do you do if there is a tsunami warning?

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## PART I QUESTIONS: MULTIPLE CHOICE

The diagram below represents the analysis of a seismogram used to calculate an earthquake's magnitude on the Richter Scale. This seismogram shows the difference in arrival times, in seconds, of the first P-wave and S-wave and the amplitude of the S-wave in millimeters.



1. What is the magnitude of a recorded earthquake if the difference in arrival times of the first P-wave and S-wave is 2 seconds and the S-wave amplitude is 20 millimeters?
  - a. 3.8
  - b. 2.0
  - c. 3.0
  - d. 4.8

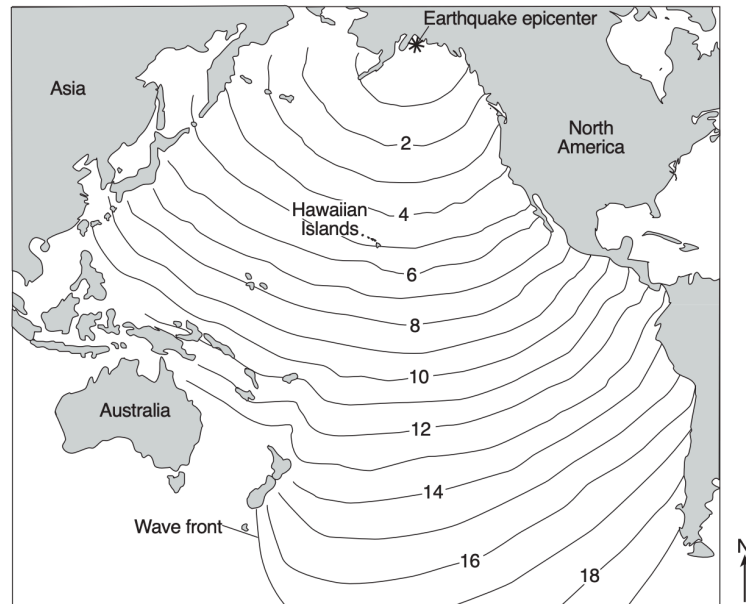
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## PART II QUESTIONS: FREE RESPONSE

Base your answers to questions 2 through 4 on the map below and on your knowledge of Earth science. The map shows changes in the tsunami wave front positions produced by the 1964 Alaskan earthquake. The numbers indicate the time, in hours, for the wave front to reach the positions indicated by the isolines.



2. If the wave front reached the Hawaiian Islands at 10:30 p.m., at approximately what time did the earthquake occur?
3. Identify *one* safety precaution that residents of the Hawaiian Islands could have undertaken in response to the tsunami warning.
4. An emergency management specialist in Hilo, Hawaii, is developing a plan that would help save lives or prevent property damage in the event of a future tsunami. Describe *two* actions or ideas that should be included in the plan.