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

**Plate Tectonics Study Guide**

Ch & Sec **Vocabulary**

**8.1** 1. \_\_\_\_\_ focus (p. 218) a. layer of the Earth that is made of the lower mantle

2. \_\_\_\_\_ epicenter b. fracture in which the movement of the plates are horizontal & parallel to each other

3. \_\_\_\_\_ fault c. destructive, volcanic mudflow made of a mixture of water, dirt, & ash

4. \_\_\_\_\_ elastic rebound d. **instrument** used to detect earthquake waves

5. \_\_\_\_\_ aftershock e. when two oceanic plates form a mid-ocean ridge at a **divergent boundary**

**8.2**  6. \_\_\_\_\_ seismograph f. characteristic of ancient rocks that shows the location of magnetic poles

7. \_\_\_\_\_ momentum magnitude g. the **springing** back of a rock back to its original position

**8.3** 8. \_\_\_\_\_ liquefaction h. occurs when one oceanic plate is forced down beneath a second plate

9. \_\_\_\_\_ tsunami i. point within the Earth where an earthquake starts

**8.4** 10.\_\_\_\_\_ lithosphere j. undersea mountains created in the middle of a plate over a **hot area of the mantle**

11.\_\_\_\_\_ asthenosphere k. when loose soil becomes saturated with water & can’t support buildings

**9.3** 12.\_\_\_\_\_ rift (p.258) l. smaller earthquake that follows a major earthquake

13.\_\_\_\_\_ seafloor spreading m. a **fracture** in the Earth where plate movement has occurred

14.\_\_\_\_\_ subduction zone n. important **mechanism** for causing plate motion when cool crust sinks

**9.4** 15.\_\_\_\_\_ paleomagnetism o. widely used **scale** to measure earthquake intensity

16.\_\_\_\_\_ hot spot p. **circular movement** of liquid cool mantles sinking & hot mantle rising

**9.5** 17.\_\_\_\_\_ slab-pull q. layer of the Earth that is made the crust & upper mantle

18.\_\_\_\_\_ convection r. **seismic sea wave** caused by an earthquake under the ocean

**10.1** 19.\_\_\_\_\_ lahar (p. 286) s. location on the surface directly above the focus of an earthquake

**11.1** 20.\_\_\_\_\_ strike-slip fault t. a tear or rip in something

21. Use **notes** & **textbook Sec 9.2** to fill in the correct term from the word bank:

|  |  |  |  |
| --- | --- | --- | --- |
| **Plate Boundaries** | **Divergent** | **Convergent** | **Transform** |
| **movement** | plates move \_\_\_\_\_\_\_\_\_ | plates move \_\_\_\_\_\_\_\_\_\_\_ | plates grinds past each other |
| **structures** | * \_\_\_\_\_\_ \_\_\_\_\_\_\_ * \_\_\_\_\_ \_\_\_\_\_\_\_\_ * seafloor spreading | * \_\_\_\_\_\_\_\_\_ \_\_\_\_\_ * \_\_\_\_\_\_\_ \_\_\_\_\_\_\_ * mountain building |  |
| **example** | \_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ |
| **lithosphere created or destroyed** | lithosphere \_\_\_\_\_\_\_\_ | lithosphere \_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_ |

***word bank***: San Andreas Fault rift valley subduction zone destroyed oceanic ridge

neither together Mid-Atlantic Ridge created volcanic activity apart Andes Mountains

22. Use **textbook Sec 9.3** to fill in the correct term from the word bank:

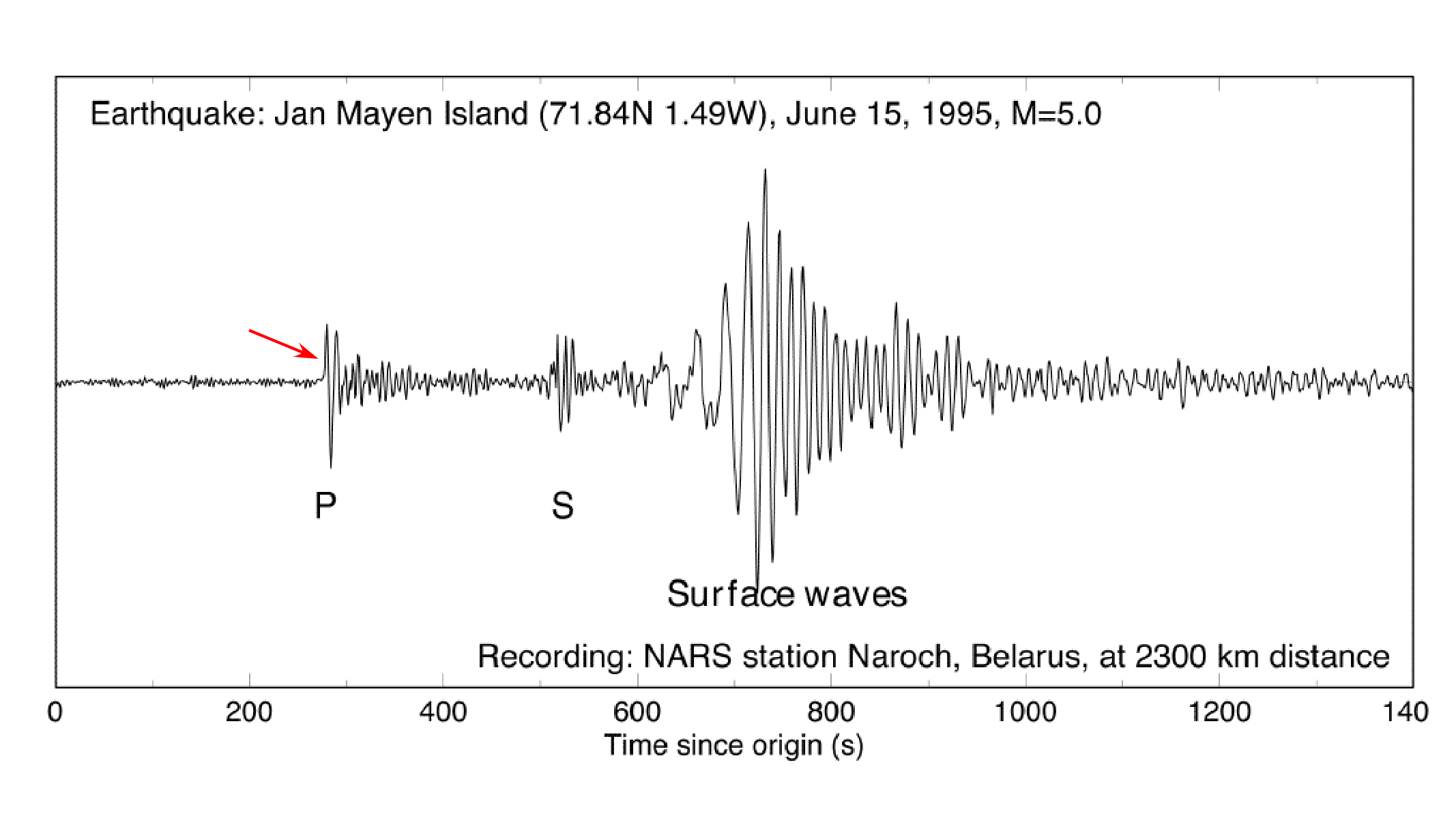
|  |  |  |  |
| --- | --- | --- | --- |
| **Action at boundaries** | **ocean-ocean** | **ocean-continent** | **continent-continent** |
| **Convergent Boundary**  (p. 261) | \_\_\_\_\_\_\_ \_\_\_\_\_ , ocean trench, volcanic \_\_\_\_\_\_\_ \_\_\_\_\_ | subduction zone, \_\_\_\_\_\_ \_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_ on continent | \_\_\_\_\_\_\_\_\_\_\_ |
| **Divergent Boundary**  (p. 258) | \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ |  | \_\_\_\_\_ \_\_\_\_\_\_\_ |

***word bank***: rift valley volcanoes subduction zone oceanic ridge

mountains ocean trench island arc

|  |  |  |  |
| --- | --- | --- | --- |
| 23. **Plate Movement**: | **Slab-Pull** mechanism (p. 269) | **Ridge-Push** mechanism (p. 269) | **Mantle Convection** (p. 269) |
| explain how it works: |  |  |  |
| example: |  |  | mantle plumes |

24. On the following seismogram label the **P**, **S** & **surface wave.**



25. Describe each of the following steps for how you would **locate an earthquake epicenter**:

1. How & why energy is released within rock:

2. How a seismograph works & the information you get from P & S waves:

3. How to use a Time-Distance Earthquake Chart:

4. How to use a map to locate the epicenter:

26. What determines the amount of **damage** that can occur as a result of an earthquake?

27. Can the exact time and location of an earthquake be predicted? *Circle*: yes no

28. Describe how an **early warning system** for an earthquake or tsunami could be designed and used?

29. Use **textbook Sec. 11.1** to fill in the correct term from the word bank:

|  |  |  |  |
| --- | --- | --- | --- |
| **Faults** | **Normal** | **Reverse** | **Strike-Slip** |
| **movement** | plates moves \_\_\_\_\_\_ | plates moves \_\_\_\_\_\_\_\_\_ | plates grinds past each other |
| **type of boundary** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **hanging wall moves?** | \_\_\_\_\_\_\_\_ | \_\_\_\_ |  |

***word bank***: together down divergent up transform apart convergent

30. Make a **simple drawing** for the 3 types of faults in question #29 above.