Questions - GeoHaz2: Tsunamis (Ch. 3)

Multiple Choice

1. The Indonesian Tsunami caused a catastrophe around the Indian Ocean because_____.
    a. the earthquake that produced it was very big
    b. the earthquake that produced it was associated with a subduction zone
    c. there was no warning system to alert people to evacuate
    d. buildings were not built to withstand a tsunami
    e. tsunamis had never been recorded in that area

2. Which of the following can NOT produce tsunamis?
    a. Submarine landslides
    b. Volcano collapse
    c. Subduction zone earthquakes
    d. Transform fault earthquakes
    e. Asteroids

3. Which is the best explanation for how earthquakes cause tsunamis?
    a. Earthquakes shift the sea floor up or downward, causing water to be displaced.
    b. Earthquakes shake the water, causing the ripples to move outward in all directions.
    c. Earthquakes cause a release of gas on the seafloor that causes water to be displaced.
    d. Earthquakes heat ocean water, causing it to expand and move as a wave.
    e. Earthquakes do NOT cause tsunamis.

4. Why DON'T people on boats in the open ocean notice a tsunami approaching?
    a. People on boats will usually mistake the large waves for tidal waves and not recognize them as tsunamis.
    b. Tsunamis are too small in amplitude in the open ocean and the distance between crests is too large for people on boats to notice their passing.
    c. Because tsunamis are produced by earthquakes, people on boats are probably still recovering from the initial tremors and thus do not notice a change in the waves.
    d. Tsunami waves don't break and therefore won't be noticed by people on boats.
    e. The statement isn't true. Tsunami waves are always noticed by people on boats in the open ocean.

5. Which of the following describes what happens to tsunami waves as they move towards the shore?
    a. The waves increase in amplitude, decrease in both speed and frequency.
    b. The waves decrease in amplitude and frequency, increase in speed.
    c. The waves increase in amplitude and frequency, decrease in speed.
    d. The waves decrease in amplitude, increase in both speed and frequency.
    e. The waves' amplitude, frequency, and speed all stay the same.

6. Which of the following regions has the LEAST risk from tsunamis?
    a. Japan
    b. Pacific Northwest coast of United States
    c. Northeastern coast of the Indian Ocean
    d. Hawaii
    e. Atlantic coast of the United States

7. Which of the following is NOT caused by tsunamis?
    a. Increased volcanic activity
    b. Fires
    c. Contaminated water supplies
    d. Disease
    e. Coastline erosion

8. Which of the following are ways to minimize the hazard from tsunamis?
    a. Greater emphasis on detection and warning systems
    b. Stricter building codes for structures on vulnerable coastlines
    c. Increased planting of native vegetation to break waves
    d. Educate people about what to do during a tsunami
    e. All of the above are ways to minimize the hazard

9. What is a "Runup Map"?
    a. A map showing where floods are likely to occur
    b. A map showing where people should flee during a tsunami
    c. A map showing where the greatest tsunami amplitudes have been in the past.
    d. A map showing where water is likely to rise in an area during tsunamis of various sizes
    e. A map showing where emergency supplies would be located during any coastal hazard

10. Which of the following signs should cause a person to leave a low lying or beach area?
    a. An earthquake is felt near a susceptible coastline area
    b. The ocean begins to recede, showing the ocean floor
    c. A tsunami siren is heard
    d. A giant wall of water is seen moving towards the beach
    e. All of the above could cause people to move to higher ground

True or False

1. People on the African coast had only minutes to prepare for the Indonesian Tsunami of 2004.

2. Tsunamis can be caused by triggers other than earthquakes.

3. All tsunamis in recorded history have occurred in the Pacific Ocean.

4. All earthquakes can cause tsunamis to form in the ocean.

5. Tsunamis in the open ocean are big enough to capsize freighters and other large boats.

6. Before a tsunami arrives, the sea level often drops, exposing the seafloor.

7. Usually, there is only one wave from the tsunami, and once it recedes people may return to their homes.

8. A tsunami can NEVER strike locations on the East Coast of the United States.

9. Tsunamis have enough erosional power to alter the landscape of coastlines that they hit.

10. Buoys in the open ocean can detect the passage of a tsunami.

11. There is no way to know where a tsunami is likely to occur.

12. If you can see the tsunami coming, you could probably just wait for it and swim to safety.