**Reflection and Transmission**

Case 1: A pulse in a more dense medium is traveling towards the boundary with a less dense medium.



1. The reflected pulse in medium 1 \_\_\_\_\_\_\_\_ (will, will not) be inverted because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2. The speed of the transmitted pulse will be \_\_\_\_\_\_\_\_\_\_\_ (greater than, less than, the same as) the speed of the incident pulse.

3. The speed of the reflected pulse will be \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (greater than, less than, the same as) the speed of the incident pulse.

4. The wavelength of the transmitted pulse will be \_\_\_\_\_\_\_\_\_\_\_ (greater than, less than, the same as) the wavelength of the incident pulse.

5. The frequency of the transmitted pulse will be \_\_\_\_\_\_\_\_\_\_\_ (greater than, less than, the same as) the frequency of the incident pulse.

Case 2: A pulse in a less dense medium is traveling towards the boundary with a more dense medium.



6. The reflected pulse in medium 2 \_\_\_\_\_\_\_\_ (will, will not) be inverted because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

7. The speed of the transmitted pulse will be \_\_\_\_\_\_\_\_\_\_\_ (greater than, less than, the same as) the speed of the incident pulse.

8. The speed of the reflected pulse will be \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (greater than, less than, the same as) the speed of the incident pulse.

9. The wavelength of the transmitted pulse will be \_\_\_\_\_\_\_\_\_\_\_ (greater than, less than, the same as) the wavelength of the incident pulse.

10. The frequency of the transmitted pulse will be \_\_\_\_\_\_\_\_\_\_\_ (greater than, less than, the same as) the frequency of the incident pulse.

ANSWER KEY

1. will not... because the reflection occurs for a wave in a more dense medium heading towards a less dense medium.

2. faster

3. the same as

4. greater than

5. the same as

6. will... because the reflection occurs for a wave in a less dense medium heading towards a more dense medium.

7. less than

8. the same as

9. less than

10. the same as