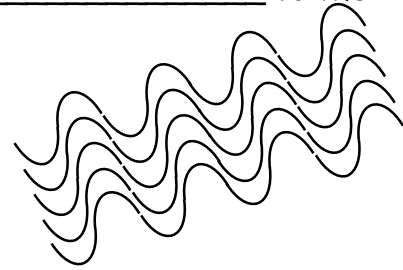


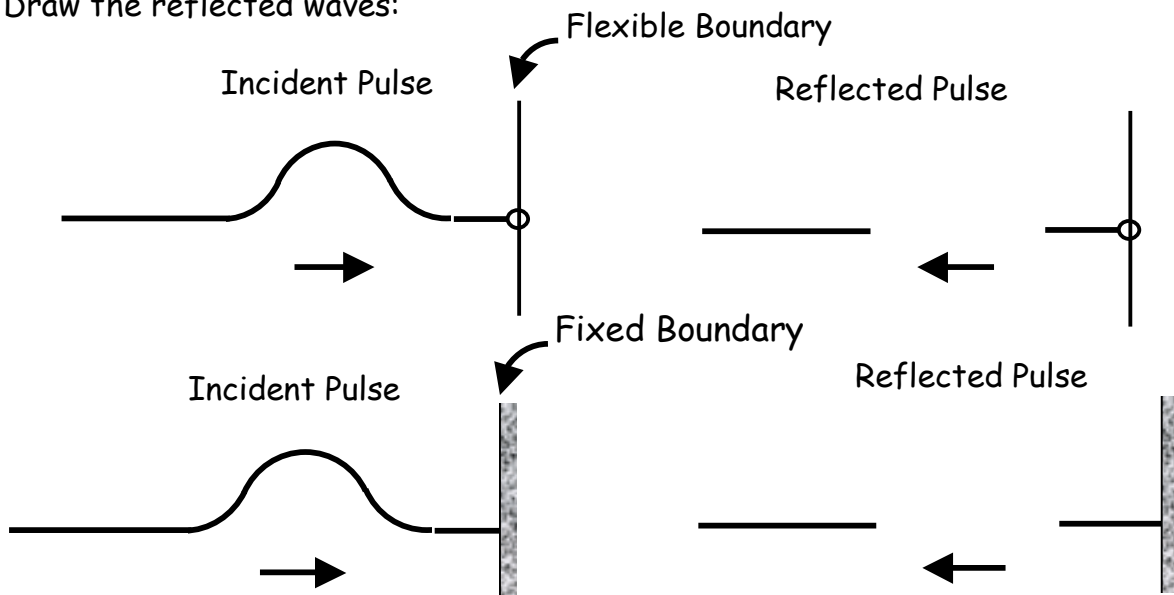
1. A wave front is the portion of the medium's surface in which all particles are _____ . The front is always _____ to the direction the wave is traveling.

Use dotted lines to draw the wave fronts created by these adjacent waves. Use an arrow to show the direction of the wave.

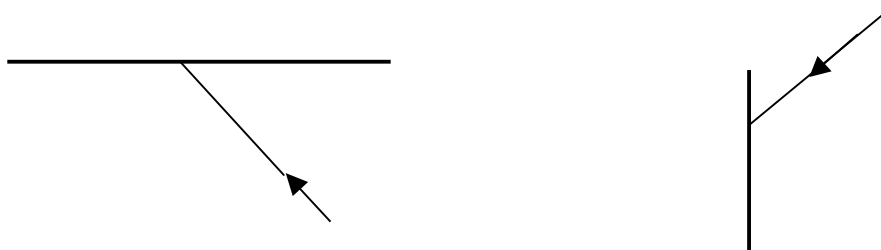


2. The turning back of a wave at a boundary of a new medium is called _____. If the new medium is very similar to the old, (most, little) will be transmitted and (most, little) will be reflected. For the following examples, consider the new medium to be very different from the old, so almost all of the wave will be _____.

Draw the reflected waves:

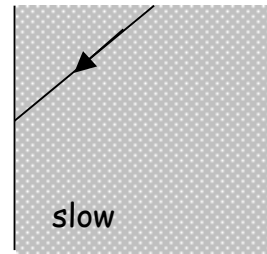
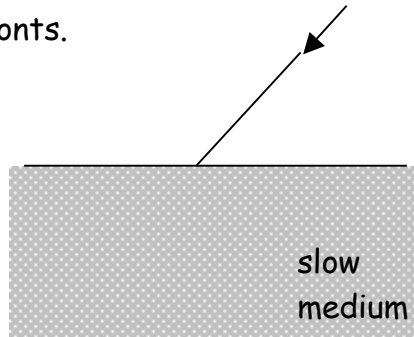


3. The Law of Reflection states: Both angles are drawn from the wave to the _____, which is _____ to the boundary. For the following, draw the normal, the reflected wave, labeling $\angle i$ and $\angle r$. With dotted lines, draw the wave fronts.



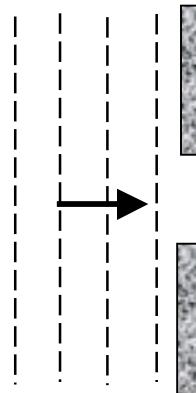
4. The bending of a wave's path as it passes _____ into a new medium is called _____. The bending is caused by the change in the _____ of the wave as it travels through a different medium

Draw the normal and refracted wave, labeling θ_i and θ_r . Use dotted lines to draw wave fronts.



5. The spreading of a wave beyond a barrier is called _____. The amount of spreading depends on the _____ of the wave and the size of the _____. When λ is large compared to the opening, (little, much) spreading occurs.

Draw the diffracted wave fronts:



6. The interaction of two or more waves passing through a medium at the same time is _____. When the waves are in phase (crest meets _____), their amplitudes (add up, cancel out) for _____ interference. Describe the other type of interference.

Show a picture for each type of interference: