

Waves (U07L02) Review 1

Name - _____

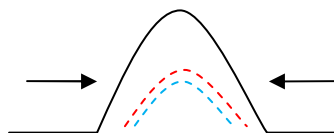
What you need to know

- 1.) Define medium - The surroundings or environment of a substance in which energy (waves) are transmitted through.
- 2.) Will a reflected pulse be upright (erect) or flipped (inverted) when a pulse reaches the free end of the medium it is traveling in?
By free end one is saying the new medium is less dense so the reflected wave pulse will be erect or upright.
- 3.) Will a reflected pulse be upright (erect) or flipped (inverted) when a pulse reaches the fixed end of the medium it is traveling in, why?
By fixed end one is saying the new medium is denser so the reflected pulse will be inverted. This is due to the change in media causing most of the energy to be reflected and as the new media was denser the reflected pulse is flipped.
- 4.) What is the name of the pulses which move from the incident medium into the new medium?
Transmitted pulse.
- 5.) What is the name of the pulse which bounces back from a new medium into the old one?
Reflected pulse.
- 6.) What is the principle of superposition?
The principle of superposition says that the displacement of a medium is the result of the algebraic sum of displacements from the two individual waves.
- 7.) Copy examples 1 and 2 (from your notes) of superposition here.

8.) Define constructive interference and sketch a situation where this would occur.

Constructive interference is the addition of two pulses in the same side of the wave. This leads to a larger pulse than the two individual pulses.

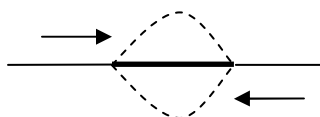
- earthquakes, bridges or ocean waves.



9.) Do the same for destructive interference.

Destructive interference is the addition of two pulses in opposite sides of the wave. This leads to some cancelling out of the pulses and results in a smaller pulse than either of the pulses alone.

- earthquakes, bridges or ocean waves



10.) What are nodes and anti-nodes?

Nodes are where destructive interference has resulted in no disturbance to occur.

Antinodes are where constructive interference has caused maximum displacement to occur.

11.) In 3 full wavelengths how many nodes and anti-nodes will occur?

7 nodes and 6 antinodes.

12.) Do the questions off of p. 297 and 301 here.

6.) Wall. 7.) Lower. 8a.) largely transmitted pulse 8b.) inverted 8c.) reflected. 8d.)

Inverted. 2.1) Amplitude. 2.2)  2.3) low frequency.

2.4) Rigid wall and open ended.