

Transmission & Reflection Review

Grade: 11

Subject: Physics 112

Date: 2014

1 All mechanical waves that travel through the same medium have the same _____.

A frequency

B period

C wavelength

D speed

2 Mechanical waves are created in a tight rope of fixed length. Increasing the frequency will _____ the speed of the waves.

A increase

B decrease

C not change

3 Mechanical waves are created in a tight rope of fixed length. Decreasing the wavelength will increase the

_____.

A frequency

B period

~~C speed~~

$$v = f \times \lambda$$

$$v = 2f \times \left(\frac{\lambda}{2}\right)$$

4 If the period of mechanical waves in a medium are doubled then the frequency will _____.

A double

$$f \times T = 1$$

B be halved

C not change

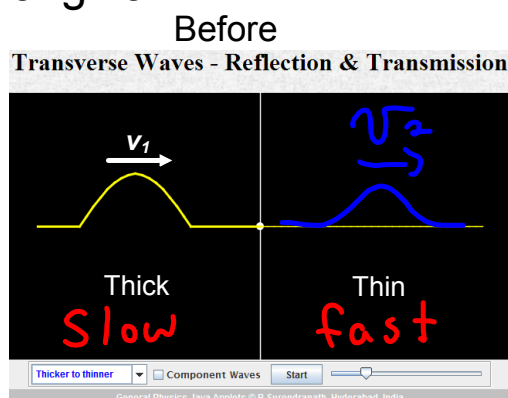
$$\frac{f}{2} \times (2T) = 1$$

5 Given the situation in the diagram, how will the transmitted pulse compare to the original?

A same orientation

B inverted

C there is no transmitted wave

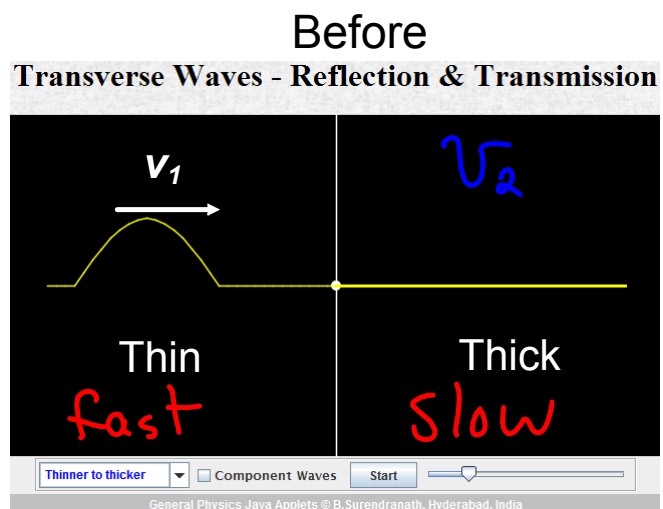


6 Given the situation given in the diagram, v_2 will be _____
 v_1 .

A equal to

B greater than

C less than



- 7 What property(ies) of mechanical waves will not change when the wave is transmitted into a different medium. Select all that apply.

$$f \times T = 1$$

A amplitude

B speed

C frequency

D wavelength

E period

8 A large spring lays straight along the floor. The other end is out the door and you cannot see it. A pulse returns inverted. Which of the following scenarios could explain your observation. Select all that apply.

A The spring is lying loose.

B The spring is tied to a wall.

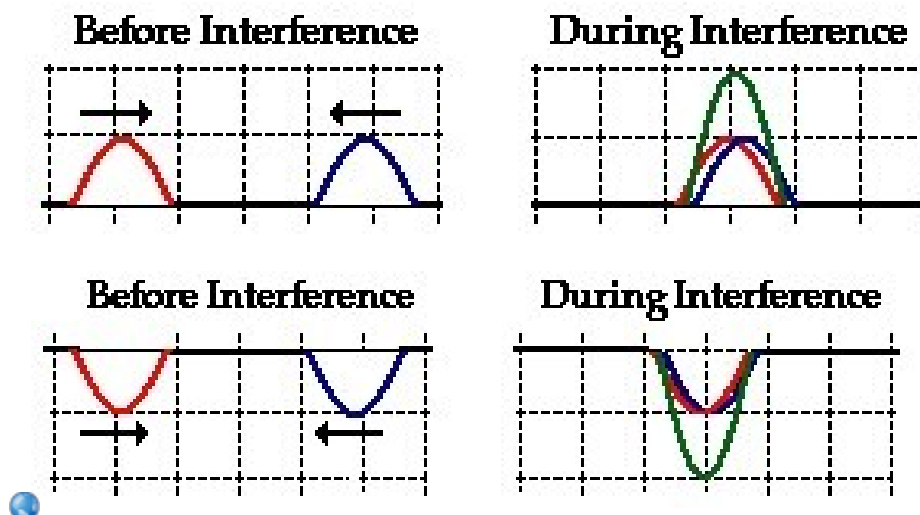
C The spring is connected to a heavier rope.

D The spring is connected to a lighter rope.

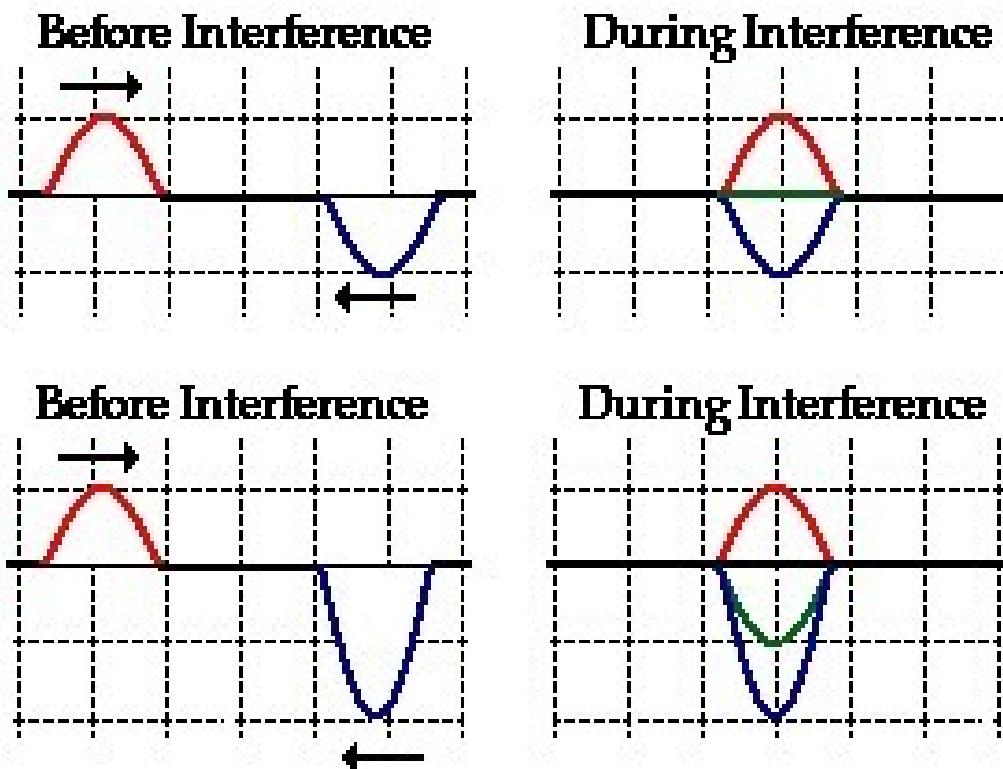
Interference of Waves

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- ⇒ Wave interference is when two or more waves act simultaneously on the same particles of a medium.
- ⇒ Principle of Superposition: The resultant displacement of a given particle is equal to the sum of the displacements that would have been produced by each wave acting independently.
- Constructive interference results when two ~~or~~ more waves interfere to produce a resultant displacement greater than the displacement caused by either wave itself.



- Destructive Interference is when the resultant displacement is smaller than the displacement that would be caused by one wave by itself.



Review by reading MHR page 355 - top of 356.