

Phys 301 Class 10: Wave Speed & Energy Superposition, Interference

Please go to the [Class Resources](#) page,
then [In-class Activities](#) and open
[PhET – Waves on a String](#)

2 students per computer.

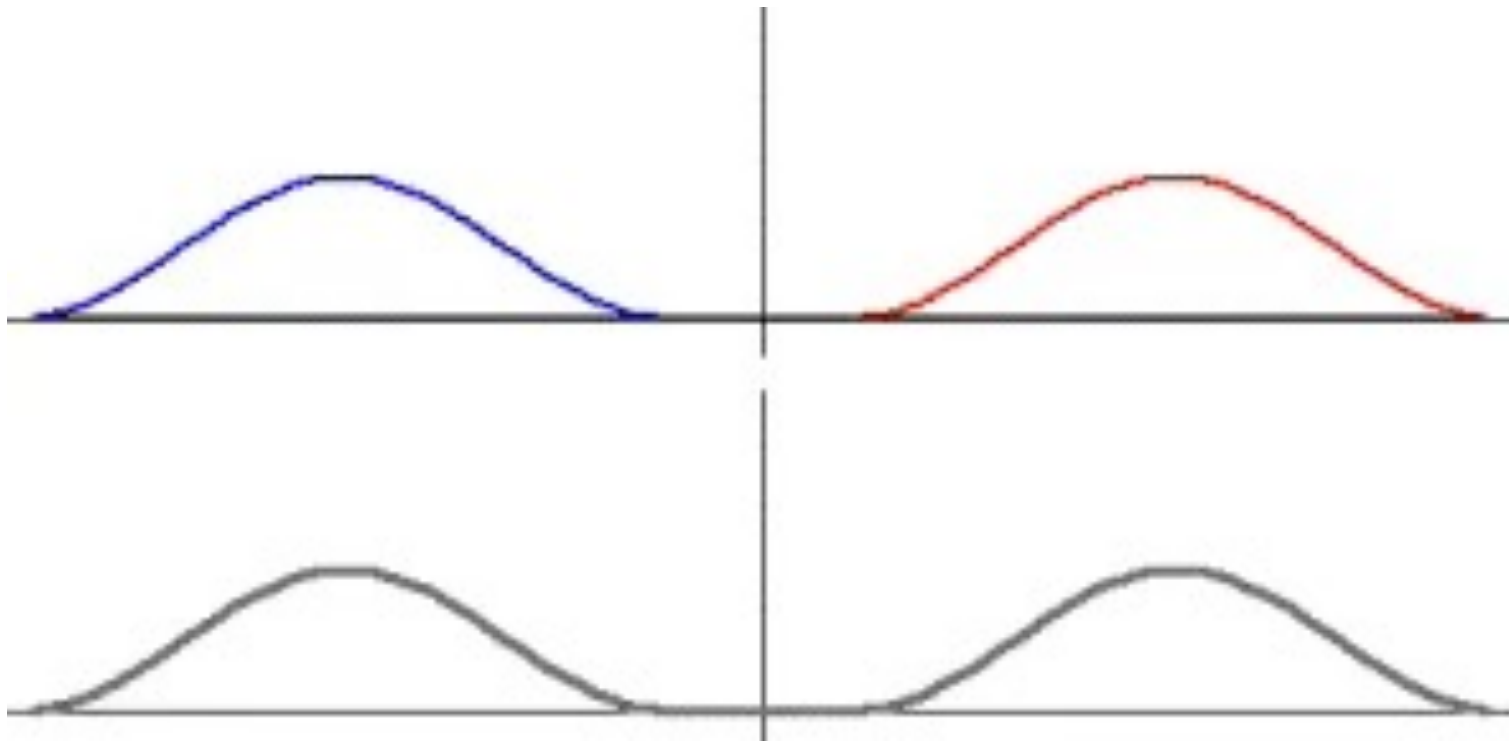
Wave Speed and Energy Activity (Handout A, Parts I and II)

$$v^{\text{wave}} = \sqrt{\frac{F^{\text{tens}}}{\mu}}$$

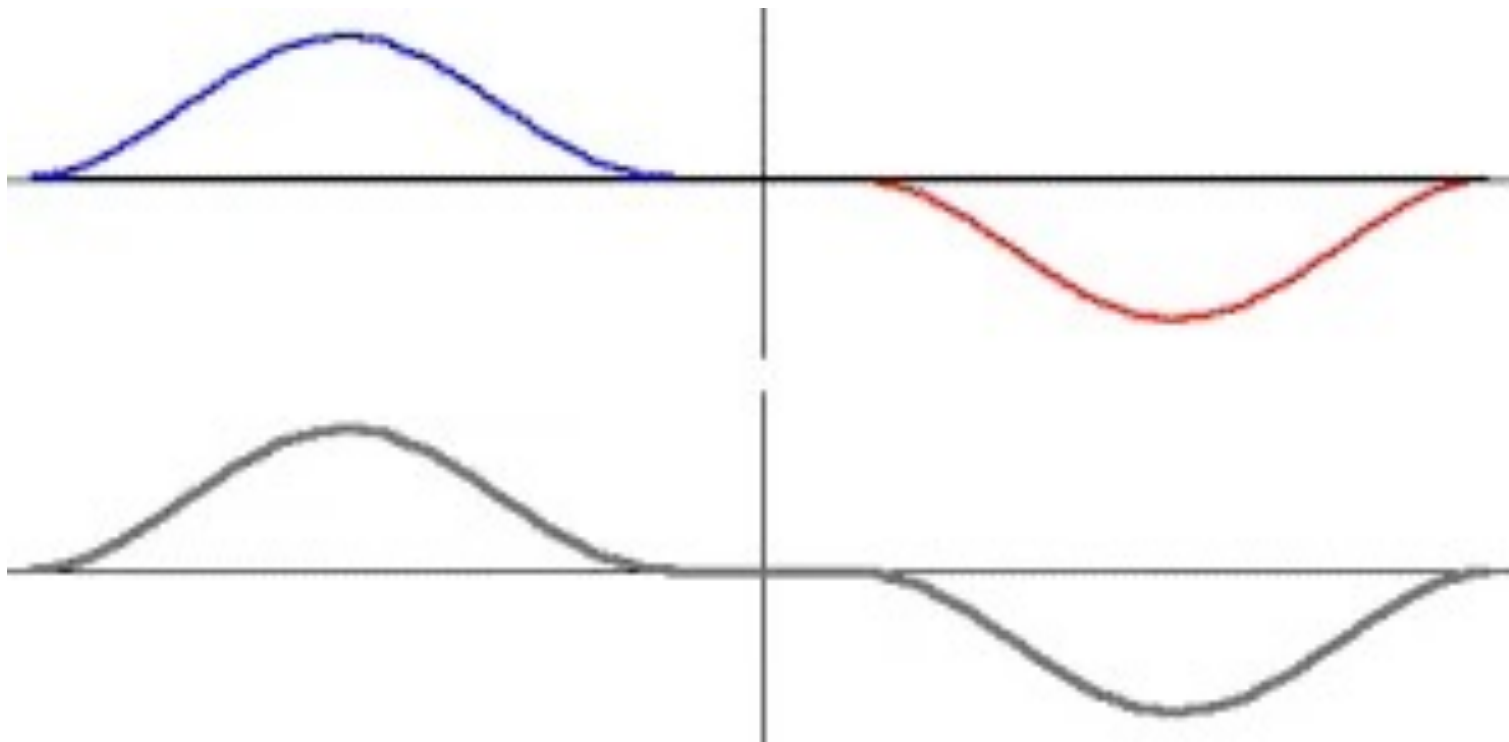
The Principle of Superposition

$$y(x, t) = y_1(x, t) + y_2(x, t)$$

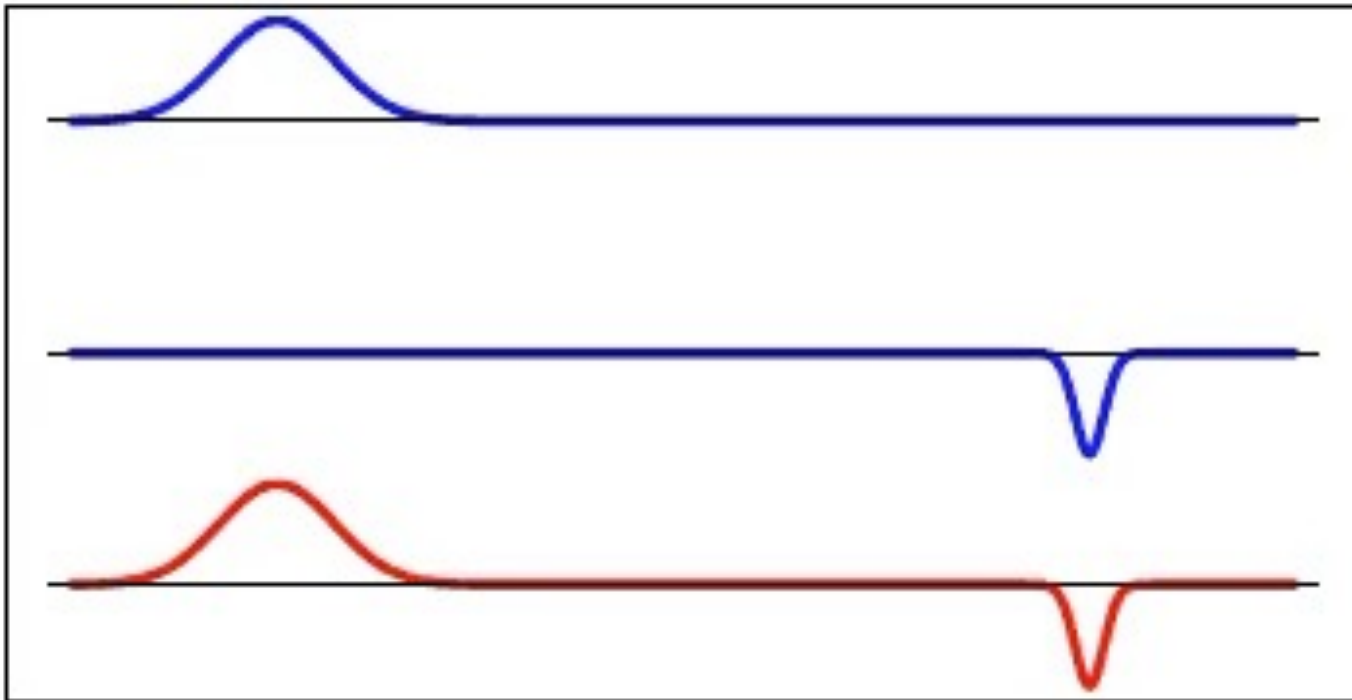
Constructive Interference



Destructive Interference



Destructive Interference



Some Special Cases

- Two waves traveling in same direction on same string, only difference is their relative phase.
- Two waves traveling in opposite direction, only difference is *direction* of motion.

Handout B, Parts III and IV