

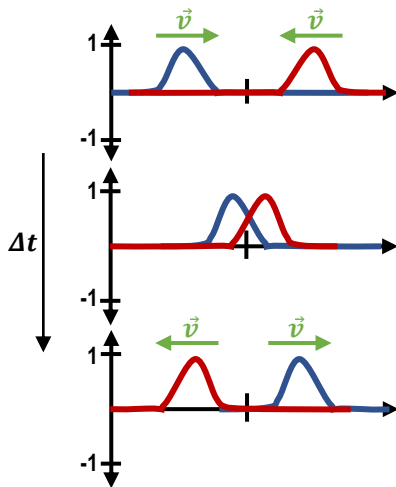
CONCEPT: WAVE INTERFERENCE & SUPERPOSITION

- When 2+ waves or pulses meet along the same medium, they *temporarily* disrupt or _____ with each other.
 - As they pass through each other, they combine a.k.a. _____ to form a wave with height $y = \text{---} + \text{---}$.

EXAMPLE: Two pulses approach each other, with equal amplitude $A=1$. When the two pulses fully overlap, what is the Amplitude of the resultant wave pulse?

CONSTRUCTIVE

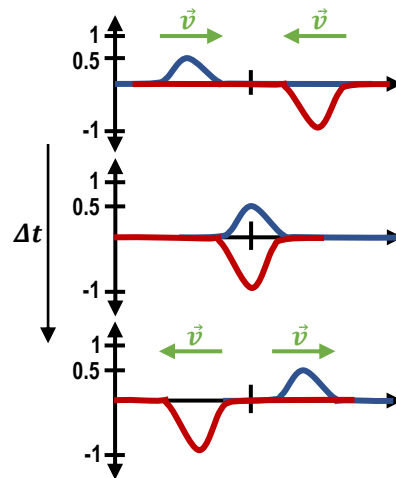
Displacements of waves have [**SAME** | **OPPOSITE**] signs



EXAMPLE: Two pulses approach each other, where one pulse is inverted. When the two pulses fully overlap, what is the Amplitude of the resultant wave pulse?

DESTRUCTIVE

Displacements of waves have [**SAME** | **OPPOSITE**] signs



PROBLEM: Two wave pulses **A** and **B** are moving in opposite directions, each with a speed $v = 2.0$ cm/s. The amplitude of **A** is twice the amplitude of **B**. The pulses are shown below, for $t = 0$. Sketch the resultant wave at $t = 1.0$ s, 2.0 s, and 3.0 s.

