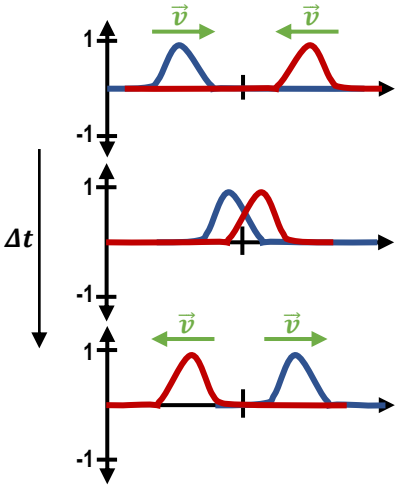
CONCEPT: WAVE INTERFERENCE & SUPERPOSITION

- 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** = ___ + ___.

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

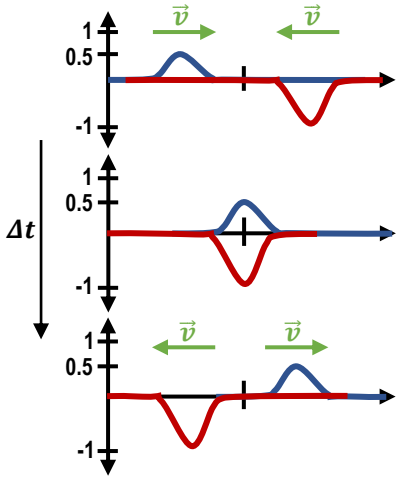
Displacements of waves have **[SAME | OPPOSITE]** signs



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 = 1.0s, 2.0s, and 3.0s.