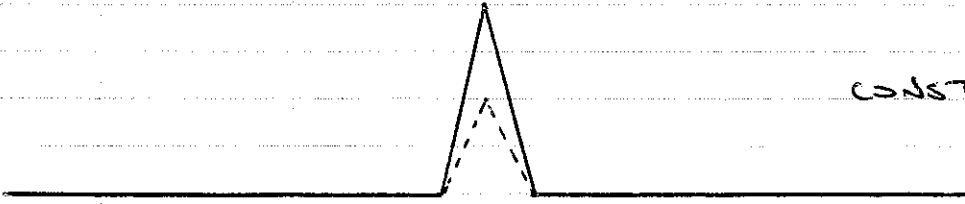


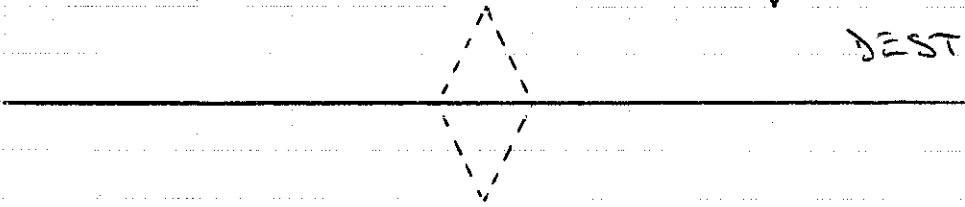
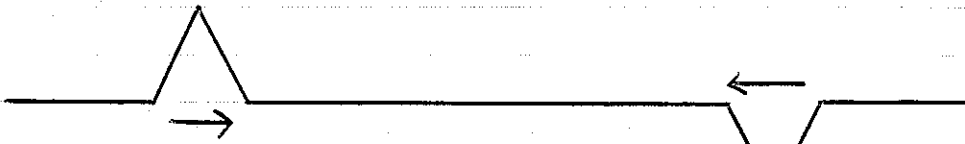
Waves Worksheet #3

1



CONSTRUCTIVE

2



DESTRUCTIVE

3



PRINCIPLE OF
SUPERPOSITION
(AMPLITUDE OF RESULTANT
EQUALS SUM OF AMPLITUDES
OF THE TWO WAVES)

④ A wave pattern that appears to not travel through the medium. It is called a standing wave because it appears to stand still.

⑤ Node - a point on a standing wave pattern where the medium appears to not move at all.

Antinode - a point on a standing wave pattern where the medium oscillates with maximum amplitude.

Nodes and antinodes alternate, with each antinode exactly halfway between 2 nodes.

⑥ The distance between 2 nodes is equal to half the wavelength.

$$\therefore \lambda = 2(0.3) = 0.6 \text{ m}$$

$$v = f \lambda$$

$$= (4) (0.6)$$

$$v = \boxed{2.4 \text{ m/s}}$$

$$\textcircled{7} \quad \lambda = \frac{v}{f} = \frac{350}{420} = 0.83 \text{ m}$$

$$\text{distance between nodes} = \frac{\lambda}{2} = \frac{0.83}{2} = \boxed{0.42 \text{ m}}$$