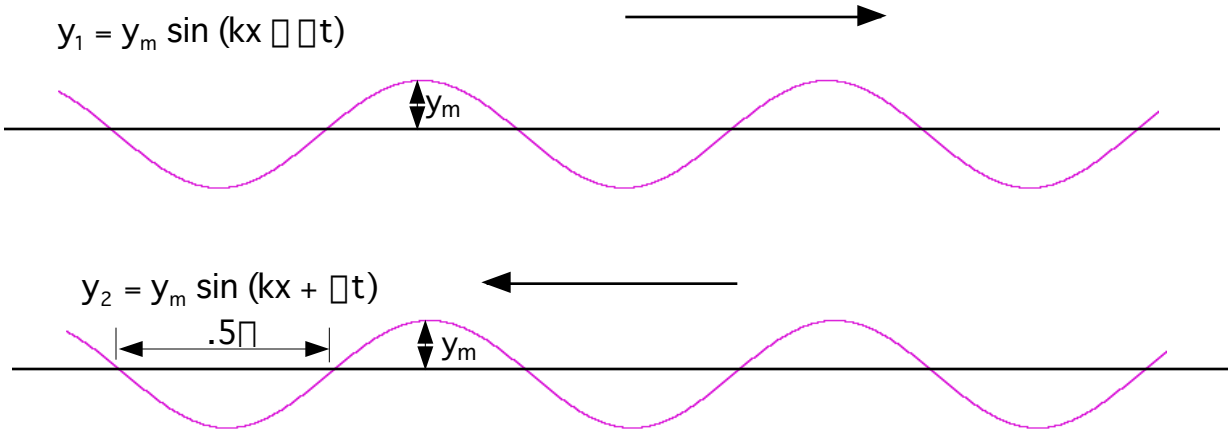
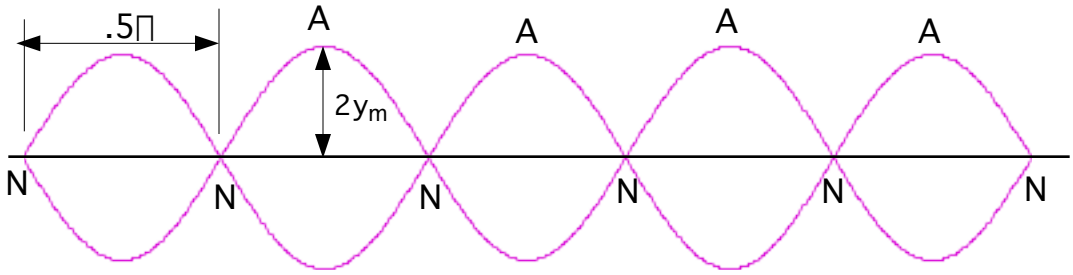
ATTACHMENT #1
Showing two waves, one moving leftward and the other moving rightward on a wire.



Standing wave on a wire fixed at both ends.
A marks location of Antinodes, points of maximum amplitude;
N marks locations of Nodes, stationary points.

$y = y_1 + y_2 = 2\, y_m \sin kx \cos \omega t$



The identity needed to add y_1 and y_2 is:

$$\sin\alpha + \sin\beta = 2 \sin\frac{\alpha+\beta}{2} \cos\frac{\alpha+\beta}{2}$$

in the above example, $\alpha = kx + \omega t$ and $\beta = kx - \omega t$