

WAVE EQUATION; WAVE INTERFERENCE

1. Equation of the wave is $y=4\text{cm} \sin 2\pi(t/4\text{s}-x/4\text{cm})$. Present this wave graphically so we observe oscillations of the point at $x=0$.

Change the position of the point. Describe in words what you observe?

2. Two waves of the same wavelength 4cm, same phase and same amplitude of 3cm interfere.

Write down the formula for one such wave.

Draw both waves in Grapes in different colours. Find the sum of those two waves. How does it look like? What is the amplitude?

Change the phase value and observe what happens.

What should happen if the phase is $(2k-1)\pi$? Check with software.

3. Two waves of the same wavelength 0.45cm same speed with the phase difference of 0,15cm spread in same direction. Represent the net wave and read
 - a) Elongation of the point in the moment $t=T/4$ which is 0.5 cm away from the nearer source if amplitudes are 0.4 cm.
 - b) What is the resulting amplitude