1. A pulse moving to the right along the x axis is represented by the wave function:

y (x, t) =

where x and y are measured in centimeters and t is measured in seconds.

Plot the wave function at t = 0, t = 1.0 s and t = 2.0 s.

1. Transverse waves with a speed of 50.0 m/s are to be produced in a taut string. A 5.00 m length of string with a total mass of 0.0600 kg is used. What is the required tension?
2. Transverse waves travel with a speed of 20 m/s in a string under a tension of 6.00 N. What tension is required to produce a wave speed of 30 m/s in the same string?
3. (a) Write the expression for y as a function as a function of x and t for a sinusoidal wave traveling along a rope in the negative x direction with the following characteristics: A=8 cm , λ=80.0 cm , f= 3 Hz , and y(0,t) =0 at t=0 (b) Write the expression for y as a function of x and t for the wave in part(a) assuming that y(x,0) =0 at the point x= 10 cm
4. A sinusoidal wave train is described by the equation y = (0.25m) sin (0.30x-40t)

where x and y are in meters and t is in seconds. Determine for this wave the (a) Amplitude, (b) Angular frequency, (c) Angular wave number ,(d) Wavelength , (e ) Wave speed and (f) Direction of motion

1. A sinusoidal wave on a string is described by the equation y= (0.51cm)sin(kx-ωt)

where k= 3.10 rad/cm and ω= 9.30 rad/s . How far does a wave crest move in 10 s ? Does it move in the positive or negative x direction?

1. A wave is described by y = (2 cm) sin (kx-ωt) , where k = 2.11 rad/m , ω = 3.62 rad/s, x is in meters and t is in seconds. Determine the amplitude, wavelength, frequency & the speed of the wave?
2. A sinusoidal wave on a string is described by the equation y= (0.15m) sin (0.80x– 50t)

Where x and y are in meters and t is in seconds. If the mass per unit length of this string is 12 g/m determine (a) The speed of the wave (b)The wavelength(c) The frequency