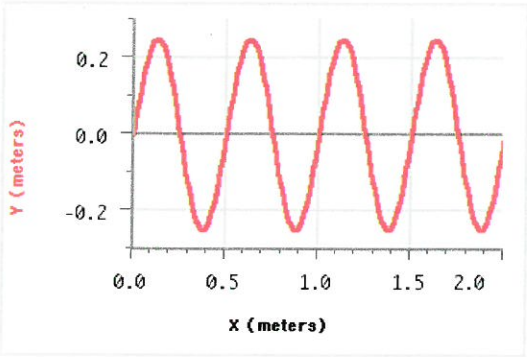
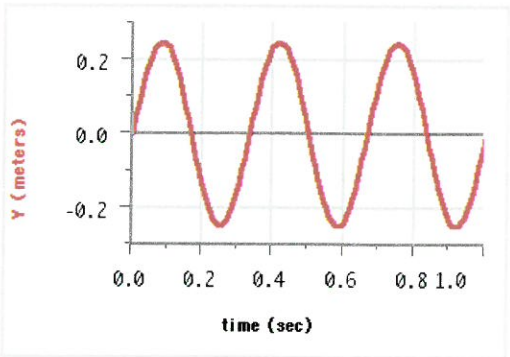
Name: Date:

Introduction to Waves

1. Below are two graphs dealing with a wave on a slinky. One of the graphs is frozen in time (a snap shot) and the other graph is frozen in space (tracks the location of a single point on the slinky as time progresses).



Snap Shot of a Wave
(Frozen in Time)

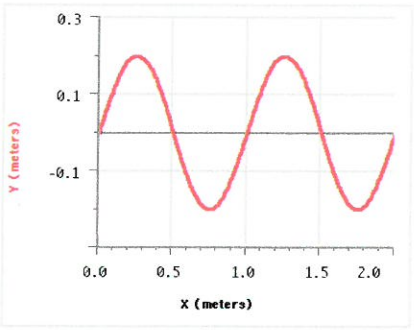


Tracking a Single Particle
(Frozen in Space)

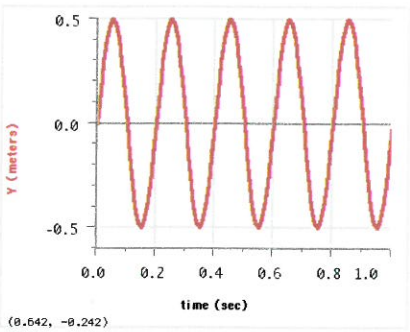
Frozen in Time		Frozen in Space	
Wavelength	0.5 m	Period	0.35 s

Based on the information you found above, what is the speed of the wave?

2. Write the equations of the waves that created the following graphs. Be sure to examine the axes to determine which equations to use.

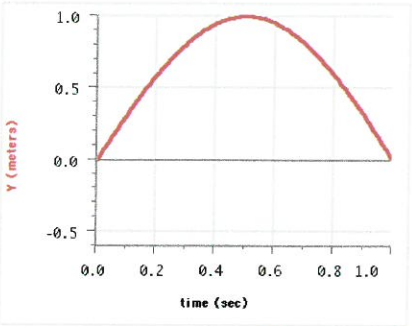


y =	~~sin~~ 0.2 sin(2πt)

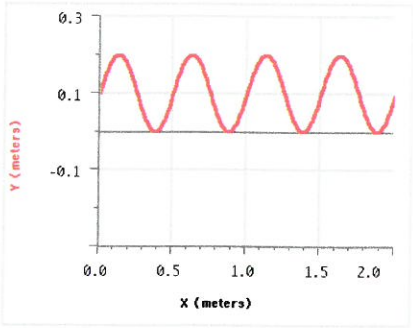


y =	0.5 sin(10πt)

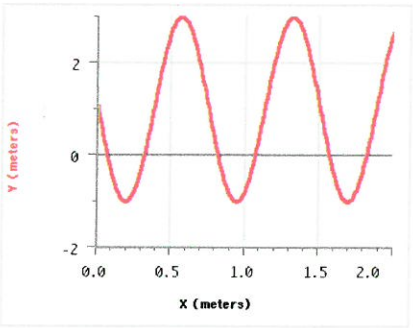
Name: Date:



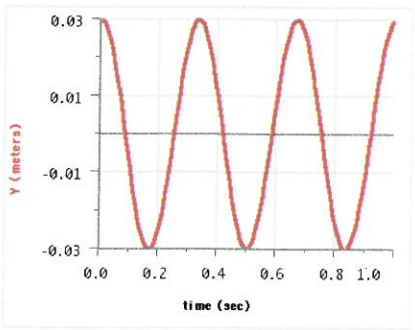
y = $\sin(\pi t)$



y = $0.1\sin(4\pi t) + 0.1$



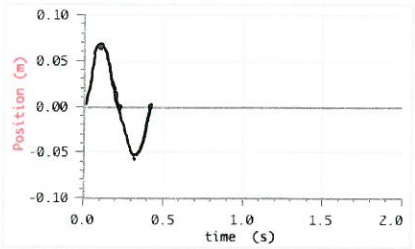
y = $-2\sin\left(\frac{8\pi}{3}x\right) + 1$



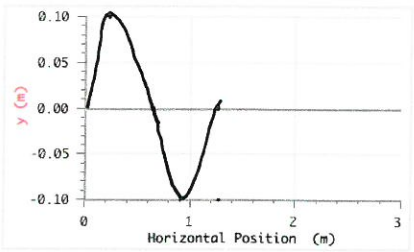
y = $0.03\cos\left(\frac{20\pi}{3}t\right)$

3. Create graphs of the following waves and give an accurate sketch of your wave on the axes below:

Amplitude = 6 cm, frequency = 2.2 Hz



Amplitude = 10 cm, wavelength = 1.3 m



Amplitude = 10 cm, Period = 1.5 s