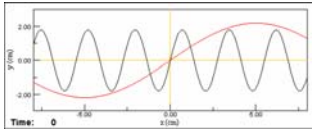


Worksheet for Exploration 17.2: Measure the Properties of a Wave



Shown in black is a traveling wave (**position is given in centimeters and time is given in seconds**). Measure the relevant properties of this wave and determine the wave function of the wave. Once you are finished, check your answer by importing a $f(x, t)$ and look at the red wave to see if it matches.

- i. The equation for the wave may be written in several ways that are equivalent. One way is:

$$f(x, t) = A \sin\left[\frac{2\pi}{\lambda} x - \frac{2\pi}{T} t + \phi_0\right]. \text{ The velocity of the wave is } \frac{\lambda}{T}. \text{ For the given wave}$$

determine:

$$A = \underline{\hspace{2cm}} \quad \lambda = \underline{\hspace{2cm}} \quad T = \underline{\hspace{2cm}}$$

$$v = \underline{\hspace{2cm}} \quad f = \underline{\hspace{2cm}}$$

- ii. What is the effect of changing the initial phase of your "check" function?