Homework #2

1) What are the definitions transverse and longitudinal wave, wavelength, intensity, and impedance?

2) What is the relationship between pressure and force? What is the relationship between mass-density and mass? What are the units for each of these four quantities?

3) If you have a mass of 1 kilogram, what spring constant $k$ is necessary to give you a simple harmonic oscillator with a frequency of $f=1/(2\pi)$ Hz?

4) What happens to the speed of sound when air heats up to higher temperature?

5) When speaking about wave motion, what is the difference between particle speed and wave speed?