Wave Properties Worksheet #2

1. A transverse wave that has a frequency of 10.0 Hz travels along a string. The distance between a **crest** and adjacent **trough** is 2.50 m. What is the speed of the wave?

2. What is the frequency of a wave that has a speed of 2.45 m/s and a wavelength of 75.0 cm?

3. The speed of a longitudinal wave is 11.8 m/s. If the wave has a wavelength of 1.44 m, what is the period of the wave?

Answer questions #4 & #5 about the following radio stations: 93.9 MHz, 97.9 MHz, 101.1 MHz & 103.5 MHz

4. Which of the above radio stations would have the highest period?

5. Which of the above radio stations would have the shortest wavelength?

6. The speed of a transverse wave is 18.0 m/s. If the transverse wave has a frequency of 2.42 Hz, what is its wavelength?

7. The Wilson Tower in Chicago sways back and forth in the wind with a frequency of about 0.100Hz. What is the period of vibration?

8. How much does the energy of a water wave increase when you quadruple the amplitude of the water wave?

9. A wave generator produces 6.0 waves per second with each wave having a length of 0.55 cm.
   a. What is the period of each wave?

   b. What is the speed of each wave?