

Name _____ Date _____ Period _____

AP 2 Wave refresher 2

1. Express in words and mathematically the relationship between
 - a. period and frequency

 - b. wavelength and frequency

 - c. wavelength and period

2. Consider a wave generator that produces 10 oscillations per second. The speed of the waves is 300. cm/s.
 - a. What is the wavelength of the waves?

 - b. What happens to the wavelength if the frequency of pulses is increased?

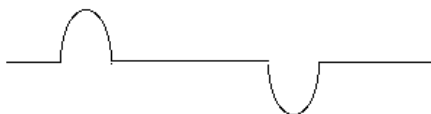
3. A wave on Beaver Dam Lake passes by two docks that are 40.0 m apart.
 - a. If there is a crest at each dock and another three crests between the two docks, determine the wavelength.

 - b. If 10 waves pass one dock every 16.0 seconds, determine the period and frequency of the wave.

 - c. What is the speed of the wave?

4. The wavelength of the light from a green laser is 5.42×10^{-7} m and the frequency is 5.535×10^{14} Hz.
- Determine the speed at which the green light travels? (This is the speed of all light waves.).
 - Light from some red lasers has a frequency of 4.6×10^{14} Hz. What is the wavelength of the red light in meters?
 - Determine the wavelength in nm (nanometers) if there are 10^9 nanometers in a meter? Why is the wavelength of visible light commonly given in nanometers?

5. In each of the following situations, two pulses are shown traveling toward each other. Make three sketches showing what will happen just prior to, during and immediately after intersection



a.

b.

c.



a.

b.

c.