

Waves Worksheet

1. The frequency of a wave is 200 rpm and the wavelength is 100cm. What is the velocity of the wave?
2. The velocity of a wave is 20 m/s. If it oscillates at a frequency of 60 Hz, what is the wavelength?
3. A wave has a wavelength of 10m. What is the spatial frequency of the wave?
4. A wave travels 40m in 2 cycles, what is its wavelength?
5. A leaf is resting on the surface of a pond when a wave travels through the water. The leaf bobs up, down, and back up in 10s. What is the frequency of the wave?
6. The speed of light is approximately 3×10^8 m/s. If a light wave travels a distance of 20cm in 10 cycles, what is the frequency of the wave.
7. Red light has a wavelength of 6.8×10^{-7} m. What is its frequency?
8. Violet light has a frequency of 700 THz (tera = 10^{12}), what is its wavelength?
9. A wave's behavior is governed by the following equation, $y = 5\sin(8x - 6t)$
 - a. What is the wavelength?
 - b. What is the frequency?
 - c. What is the period?
 - d. What is the amplitude?
 - e. Is this a transverse or longitudinal wave?
 - f. What direction is the wave traveling?