

Work each of the following problems. SHOW ALL WORK.

1. What happens to the wavelength of a light wave when its frequency is doubled?

2. An AM radio station has a frequency of 720 kHz. What is the corresponding wavelength for this radio station?
3. An FM radio station has a frequency of 96.7 MHz. What is the corresponding wavelength to this radio station?
4. The range of wavelengths for visible light is from 3.9×10^{-7} m to 7.0×10^{-7} m. What is the corresponding range of frequencies for visible light?
5. X-rays used by dentists have a wavelength of roughly 3.0×10^{-11} m. What is the frequency of these waves?