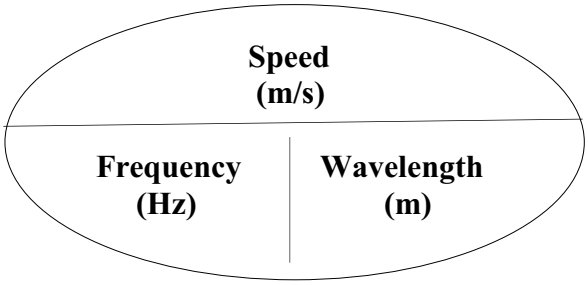
Name _____ **Date** _____ **Period**_____

Speed /Frequency / Wavelength Problems



Speed of light (c) = 3.0 x 10^8 m/s

Speed (m/s) = Frequency x Wavelength

Wavelength (m) = $\frac{\text{Speed}}{\text{Frequency}}$

Frequency (Hz) = $\frac{\text{Speed}}{\text{Wavelength}}$

1. Red light has a wavelength of 6.80 x 10^{-7} m. What is the frequency?

2. Royal blue light has a frequency of 4.25 x 10^{14} Hz. What is the wavelength?

3. Calculate the wavelength of radiation with a frequency of 2.0 x 10^{18} Hz.

4. What is the wavelength of light with a frequency of 4.89 x 10^{14} Hz?

5. What is the wavelength of X-rays having a frequency of 6.31 x 10^{17} Hz?