



$$V = f \lambda$$

V = Speed of the wave
measured in m/s

f = frequency is how many waves
pass a given point per second.
Measure in Hertz (Hz)

1 Hz means 1 wave per second

20 Hz means 20 waves per second

a wave has a frequency of
4 Hz and a wavelength of 2.0m.
what is the wave speed?

$$v = f \lambda = (4 \text{ Hz})(2.0 \text{ m}) = \boxed{8.0 \text{ m/s}}$$

A sound wave travels @ 340 m/s with a frequency of 20 Hz. What is the wavelength of the wave?

$$v = 340 \text{ m/s}$$

$$f = 20 \text{ Hz}$$

$$\lambda = ?$$

$$340 \text{ m/s} = 20 \text{ Hz } \lambda$$

$$\frac{340}{20} = \lambda$$

$$\lambda = 17 \text{ m}$$

A radio wave is traveling at $3 \times 10^8 \text{ m/s}$ and has a wavelength of 1.2m. What is the frequency of the wave?

$$v = 3 \times 10^8 \text{ m/s}$$

$$\lambda = 1.2 \text{ m}$$

$$f = ?$$

$$3 \times 10^8 = f \cdot 1.2$$

$$\frac{3 \times 10^8}{1.2} = f$$

$$f = 250000000$$

$$f = 250000000 \text{ Hz}$$

$$\text{250 MHz}$$

