

Answer on Question #47654 – Physics – Other

Question.

A wave has a speed of 54 m/s and a frequency of 10.0 Hz. What is the wavelength?

Given:

$$v = 54 \frac{m}{s}$$

$$f = 10 \text{ Hz}$$

Find:

$$\lambda = ?$$

Solution.

By definition the wavelength λ of the wave travelling at constant speed v with frequency f is given by:

$$\lambda = \frac{v}{f}$$

Calculate:

$$\lambda = \frac{54}{10} = 5.4 \text{ m}$$

Answer.

$$\lambda = \frac{v}{f} = 5.4 \text{ m}$$