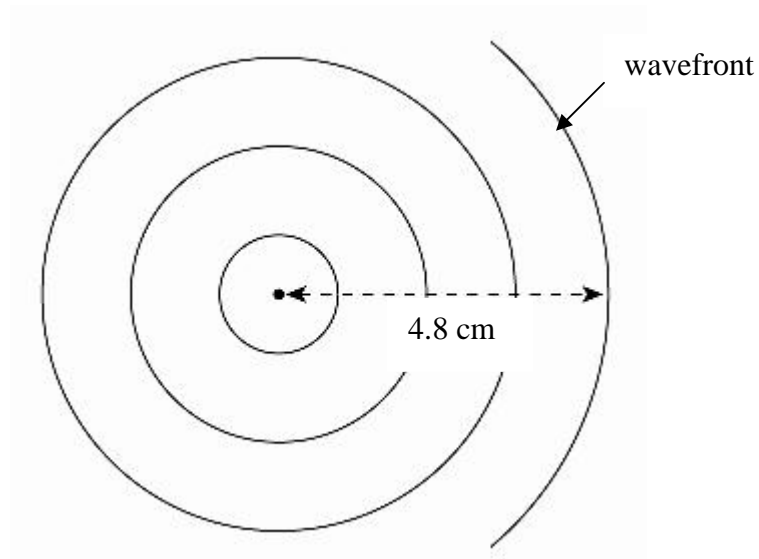# CHAPTER 6:   WAVES

Example

The diagram below shows the wavefronts produced in a ripple-tank experiment using a plastic dipper vibrating at a frequency of 5 Hz.

wavefront

4.8 cm

What is the speed of the water waves?

Solution

Distance between two successive wavefronts $= \lambda$

$$\therefore 4\,\lambda = 4.8 \text{ cm}$$
$$\lambda = 1.2 \text{ cm}$$

Frequency, $f = 5$ Hz

$\therefore$ Wave speed, $v = \lambda f$
$$= 1.2 \times 5$$
$$= 6.0 \text{ cm s}^{-1}$$