

Waves

4. Wave Properties

CONCEPT 3

TEST YOURSELF

WAVE SPEED

KNOW

- Q1 A cyclist travels 1200 metres in 60 seconds.
What is her average speed, in metres per second?
- Q2 A sprinter runs 100 metres in 9.58 seconds.
What is his average speed, in metres per second?

APPLY

- Q3 At a swimming pool at a leisure centre, a wave machine makes waves by large bursts of air being blown under water at one end of the pool. The pool is 50 metres in length. The crest of a wave takes 8 seconds to travel the length of the pool.
What is the speed of the wave as it travels along the length of the pool, in metres per second?
- Q4 (a) Sound travels 1360 metres in 4 seconds in air.
What is the speed of sound in air?
- (b) Sound travels 11 250 metres in 7.5 seconds in water.
What is the speed of sound in water?

EXTEND

- Q5 A girl visited a canyon with her family. She wanted to see if there is an echo. She shouted "hello!" towards a steep cliff face. She started a timer when she shouted and stopped the timer when she hear the echo.

The speed of sound is 340 metres per second and the girl recorded that it took 1.47 seconds for her to hear the echo.

How far was the girl standing from the cliff face?