

1. The formula  $v = f\lambda$  can be used to calculate the wave speed,  $v$  m/s, of a wave with a frequency,  $f$  Hz, and wavelength  $\lambda$  m.

{FYI  $v$  is the velocity or speed of the wave. The unit Hz is read a bit like “hurts”.}

Calculate the speed of a wave with a frequency of 50 Hz and a wavelength of 6 m.

..... m/s

2. The mass of an aluminium window frame is 2700 g and it’s volume is 1000 cm<sup>3</sup>

Work out the density of the aluminium.

..... g/cm<sup>3</sup>

proportionalFormulaNC (7) Q1: 300; Q2: 2.7; Q3: 600; Q4: 0.02

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3. A ship travels for 30 hours at an average speed of 20 mph

Work out the distance that this ship travels.

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4. The formula  $F = ke$  is called Hooke's Law. It calculates the force,  $F$  N, to extend a spring by an extension,  $e$  m, when the spring constant is  $k$  N/m.

Work out the extension of the spring when a force of 200 N is applied to a spring with a spring constant of 10 000 N/m.

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