

Name:

Class:



A water wave has a frequency of 0.25 Hz and a wavelength of 6.0 m.

Calculate the speed of the wave.

$$\text{Wave speed} = \text{frequency} \times \text{wavelength}$$

$$\text{Wave speed} = 0.25 \times 6.0$$

$$\text{Wave speed} = \mathbf{1.5 \text{ m/s}}$$

A swimming pool contains 9970 kg of water in 5 m³.

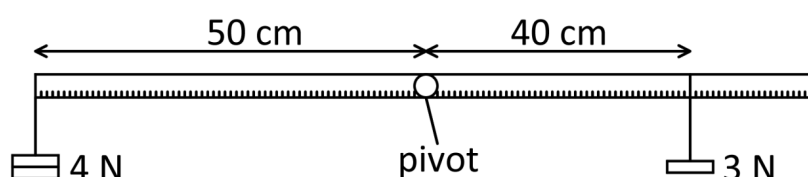
Calculate the density of water.

$$\text{Density} = \text{mass} \div \text{volume}$$

$$\text{Density} = 9970 \div 5$$

$$\text{Density} = \mathbf{1994 \text{ kg/m}^3}$$

The diagram shows an experiment a student set up to study moments.



Calculate the moments of the 4 N weight and the 3 N weight about the pivot.

$$\text{Moment} = \text{force} \times \text{distance}$$

$$\text{Moment} = 4 \times 0.50$$

$$\text{Moment} = \mathbf{2.0 \text{ Nm}}$$

$$\text{Moment} = \text{force} \times \text{distance}$$

$$\text{Moment} = 3 \times 0.40$$

$$\text{Moment} = \mathbf{1.2 \text{ Nm}}$$

$$\text{Moment of 4 N weight} = \mathbf{2.0 \text{ Nm}}$$

$$\text{Moment of 3 N weight} = \mathbf{1.2 \text{ Nm}}$$

Which statement about alpha particles is correct?

- A They are fast moving electrons.
- B** They are less penetrating than beta particles.
- C They can pass through lead.
- D They have less mass than beta particles.

What is 5.555 m/s written to 2 significant figures?

- A 5.5 m/s
- B 5.55 m/s
- C 5.56 m/s
- D** 5.6 m/s

State Newton's **first** law of motion.

Newton's first law states that an object will remain stationary or moving in a straight line at a constant speed unless it is acted on by a resultant force.

Accept a correct differently worded version of the answer above.