

1 For which quantity is the magnitude a reasonable estimate?

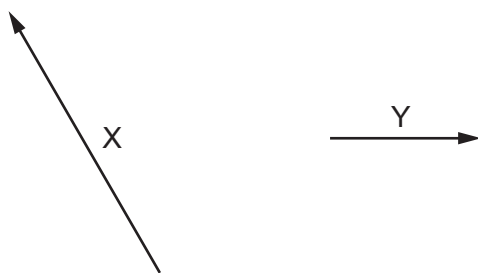
- A frequency of a radio wave 500 pHz
- B mass of an atom 500 μg
- C the Young modulus of a metal 500 kPa
- D wavelength of green light 500 nm

2 The speed of a wave in deep water depends on its wavelength L and the acceleration of free fall g .

What is a possible equation for the speed v of the wave?

- A $v = \sqrt{\left(\frac{gL}{2\pi}\right)}$ B $v = \frac{gL}{4\pi^2}$ C $v = 2\pi\sqrt{\left(\frac{g}{L}\right)}$ D $v = \frac{2\pi g}{L}$

3 The diagram shows two vectors X and Y, drawn to scale.



If $X = Y - Z$, which diagram best represents the vector Z?

