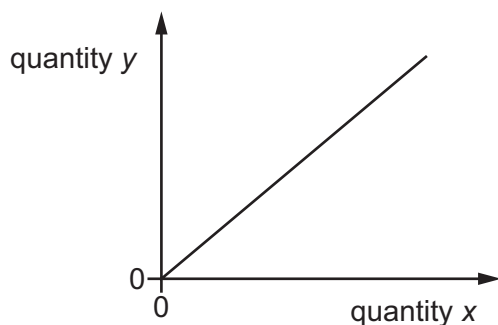


- 8 The graph shows the variation of a quantity  $y$  with a quantity  $x$  for a body that is falling in air at constant (terminal) velocity in a uniform gravitational field.



Which quantities could  $x$  and  $y$  represent?

	$x$	$y$
<b>A</b>	air resistance	acceleration
<b>B</b>	loss of height	gain in kinetic energy
<b>C</b>	loss of potential energy	work done against air resistance
<b>D</b>	time	velocity

- 9 A ball of mass  $2.0\text{ kg}$  travels horizontally with a speed of  $4.0\text{ m s}^{-1}$ . The ball collides with a wall and rebounds in the opposite direction with a speed of  $2.8\text{ m s}^{-1}$ . The time of the collision is  $150\text{ ms}$ .

What is the average force exerted on the wall?

- A** 16 N                      **B** 37 N                      **C** 53 N                      **D** 91 N

- 10 An ice-hockey puck of mass  $150\text{ g}$  moves with an initial speed of  $2.0\text{ m s}^{-1}$  along the surface of an ice rink.

The puck slides a distance of  $30\text{ m}$  in a straight line before stopping.

What is the average frictional force acting on the puck?

- A** 0.010 N                      **B** 0.020 N                      **C** 0.067 N                      **D** 0.44 N