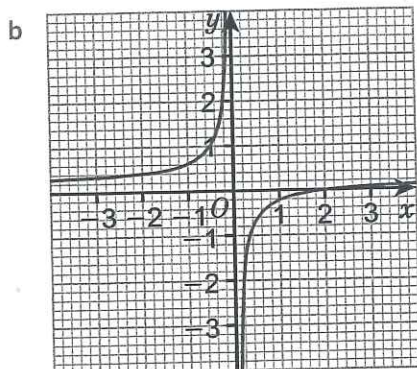




c $x = 0$ and $y = 1$

- 9 a graph plotted with points at (0, 0), (1, 0.6), (2, 2.4), (2, 2.4) (3, 5.4), (4, 9.6), (5, 15), (6, 21.6), (7, 29.4), (8, 38.4), (9, 48.6), (10, 60)

- b 12.2 m c 8.2 seconds

- 10 a $3x + 5y = c$ where $c \neq -10$ (or $y = -\frac{3}{5}x + c$ where $c \neq -2$)

b $2y - 4x = 2$ (or $y = 2x + 1$)

c $y = \frac{3}{4}x + 2.5$ (or $4y = 3x + 10$)

11 a $y = -0.5x - 2$

b $(-2, -1)$

c 5.8

- 12 $k = 7$; $D = (4, 7)$; point (4, 7) satisfies the equation $y = 2x - 1$

13 $PD = 7.5$

- 14 a i C ii D iii A iv B

b A: $x = 0$, B: no line symmetry, C: $x = 0$, D: $y = x$

15 a A

b B

c C

d D

6 Unit test

- 1 Graph of $y = 2x - 1$ correctly drawn: y -intercept of -1 seen [1], gradient = 2 [1], line drawn [1], graph and axes labelled [1]

- 2 a Gradient = -3 [1] b Midpoint = $(0.5, 2.5)$ [1] c Length = 9.5 (1 d.p.) [1]

- 3 a Positive correlation [1]

- b x and y are in direct proportion [1]

- 4 a 48 minutes [1] b 16 km [1]

- c Horizontal line drawn from $(1:15, 21)$ to $(1:45, 21)$ [1], diagonal line from $(1:45, 21)$ to $(3:30, 0)$ [1]

- 5 a Acceleration = $\frac{1}{5} = 0.2 \text{ m/s}^2$ [2]

- b Distance = area under the graph = 2.5 m [2]

- 6 $y = 0.3x + 3$ [2] [1 for correct gradient, 1 for correct intercept]

- 7 a $KE = 0.5 \times 1.5 \times 3^2$ [1] = 6.75 J [1]

- b Graph correctly plotted [1] and labelled [1]

- c $\approx 3.4 \text{ m/s}$ read from graph [1]

- 8 a $y = 3x + c$, where $c \neq 2$ [1]

- b $2y + 5x = c$, where $c \neq 1$ [1]

- c $y = \frac{1}{2}x - 5$ [2] [1 for $\frac{1}{2}x$, 1 for -5]

- 9 a $(1, -2)$ [1]

- b $x = 1$ [1]

- c iii $y = 2x^2 - 4x$ [1]

- 10 a $x = -0.4$ [1], $x = 2.4$ [1]

- b Approximately $(2.7, 3.7)$ [1] and $(-0.2, 0.8)$ [1]

Sample student answers

Students' own answers.