

1 Coordinates and midpoints ☐

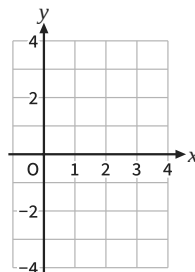
$A(-3, 2)$, $B(5, 2)$ and $C(5, -4)$ are three corners of rectangle $ABCD$.

- a) Write down the coordinates of D .
b) The midpoint of BF is $(-1, 5)$. Find the coordinates of F .

a) $D = (-3, -4)$
b) $(5, 2)$ to $(-1, 5)$ is $-6, +3$
so $F = (-7, 8)$

2 Plotting straight lines ☐

- a) Draw the graph of $y = 4 - 2x$ for values of x from 0 to 4.



- b) Does the point $(12, -20)$ lie on the line? Show how you know.

a) a ruled line from $(0, 4)$ to $(4, -4)$
b) $4 - 2 \times 12 = -20$, so yes

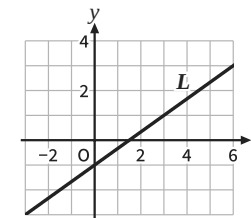
3 Gradient of a line ☐

- a) Find the gradient of the line through $(-2, 7)$ and $(4, -2)$.
b) The line through $(1, k)$ and $(5, 13)$ has gradient 2.5. Find k .

a) $\frac{-9}{6} = -\frac{3}{2}$
b) rise = $2.5 \times 4 = 10$
 $k = 13 - 10 = 3$

4 Equation from a graph ☐

- a) Find the equation of line L .
b) M is parallel to L and goes through $(6, 1)$. Find the equation of M .



a) $y = \frac{2}{3}x - 1$ b) $y = \frac{2}{3}x - 3$

5 Perpendicular lines ☐

Line L has equation $4x + 3y = 12$.

- a) Find the gradient of a line perpendicular to L .
b) Find the equation of the line perpendicular to L that passes through $(8, 1)$.

a) $y = 4 - \frac{4}{3}x$, so $\frac{3}{4}$
b) $1 = 6 + c$, $y = \frac{3}{4}x - 5$

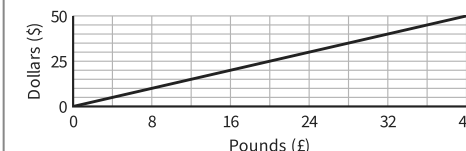
Graphs revision mat answers

Higher A

6 Conversion graphs ☐

The graph converts pounds to US dollars.

- a) Convert £24 to dollars.
b) Convert \$350 to pounds.

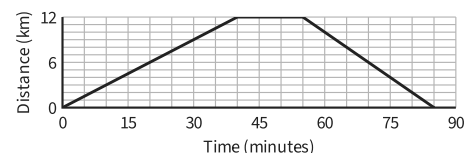


a) \$30 b) \$350 = $7 \times \$50$
 $7 \times £40 = £280$

7 Distance time graphs ☐

Leo cycles from home to a lake and back.

- a) Find his speed there, in km/h.
b) How much faster was he coming back?

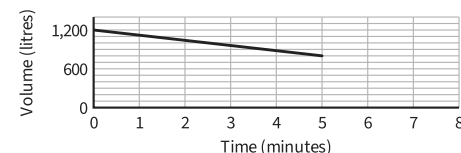


a) 12 km in 40 min = 18 km/h
b) back: 24 km/h, 6 km/h faster

8 Rates from graphs ☐

A hot tub is drained.

- a) Find the rate in litres per minute.
b) At this rate, when will it be empty?

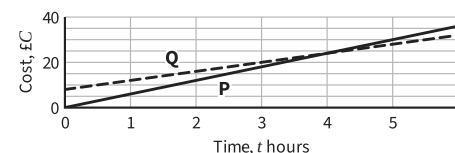


a) $400 \div 5 = 80$ litres per minute
b) $1200 \div 80 = 15$ minutes

9 Direct proportion graphs ☐

Paddleboard hire at shops P and Q.

- a) Which shows direct proportion? Why?
b) For that shop, write C in terms of t .

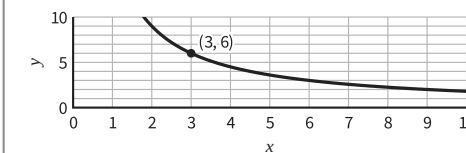


a) P: a straight line through $(0, 0)$
b) $30 \div 5 = 6$, $C = 6t$

10 Inverse proportion graphs ☐

y is inversely proportional to x .

- a) Write a formula for y in terms of x .
b) Find x when $y = 0.75$.



a) $y = \frac{18}{x}$ b) $18 \div 0.75 = 24$