

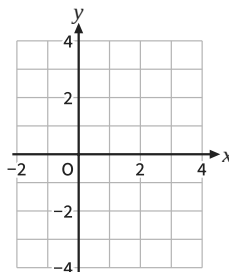
1 Coordinates and midpoints ☐

- a) Find the midpoint of $(-5, 8)$ and $(9, -2)$.
 b) The midpoint of CD is $(-3, 4)$. C is on the x axis and D is on the y axis. Find C and D .

a) $(4 \div 2, 6 \div 2) = (2, 3)$
 b) $C(-6, 0)$: half of -6 is -3
 $C = (-6, 0), D = (0, 8)$

2 Plotting straight lines ☐

- a) Draw $y = \frac{1}{2}x - 2$ and $y = -x + 1$.
 b) Write down where the lines cross.



a) $(0, -2), (4, 0); (0, 1), (3, -2)$
b) $(2, -1)$

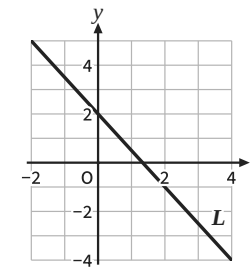
3 Gradient of a line ☐

- a) Find the gradient of the line through $(-3, -5)$ and $(5, 1)$.
 b) Which is steeper: the line through $(0, 2)$ and $(4, 12)$, or $y = 3x - 1$? Show how you know.

a) $\frac{6}{8} = \frac{3}{4}$
 b) $\frac{10}{4} = 2.5$, less than 3
 $y = 3x - 1$ is steeper

4 Equation from a graph ☐

- a) Find the equation of L .
 b) Find exactly where L meets the x axis.



a) $y = -\frac{3}{4}x + 3$ b) $(4, 0)$

5 Perpendicular lines ☐

A is $(-2, 1)$ and B is $(4, 4)$.

- a) Find the gradient of a line perpendicular to AB .
 b) Find the equation of the line through B that is perpendicular to AB .

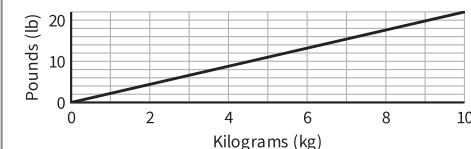
a) $AB: \frac{3}{6} = \frac{1}{2}$, so -2
 b) $4 = -8 + c, c = 12$
 $y = -2x + 12$

Graphs revision mat answers

6 Conversion graphs ☐

Kilograms (kg) to pounds (lb).

- a) Convert 15 lb to kg.
 b) Sam doubles kg to get lb. Is he right?

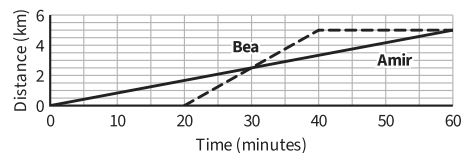


a) about 6.8 kg (6.6 to 7)
b) no: 10 kg is 22 lb, not 20 lb

7 Distance time graphs ☐

Amir walks and Bea cycles one route.

- a) When and where does Bea pass Amir?
 b) Find Bea's speed in km/h.

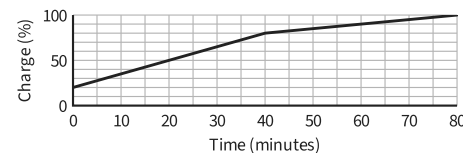


a) at 30 minutes, 2.5 km out
b) 5 km in 20 min = 15 km/h

8 Rates from graphs ☐

A phone battery charges.

- a) Find the rate for the first 40 minutes.
 b) What happens after 40 minutes?

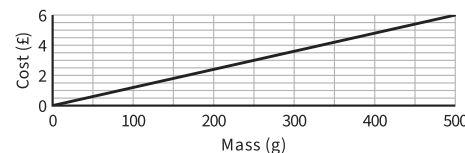


a) $60 \div 40 = 1.5\%$ per minute
b) slower: 0.5% per minute

9 Direct proportion graphs ☐

Cost is directly proportional to mass.

- a) Find the cost of 350 g.
 b) Find the cost of 1.2 kg.

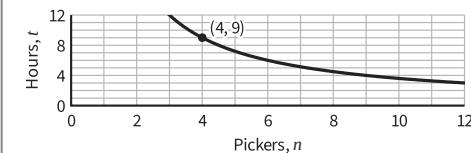


a) £4.20 (£4.10 to £4.30)
b) $1200 \text{ g} = 2.4 \times 500 \text{ g}$: £14.40

10 Inverse proportion graphs ☐

Time is inversely proportional to pickers.

- a) How long do 12 pickers take?
 b) How many pickers take 2 hours?



a) $4 \times 9 = 36, 36 \div 12 = 3$ hours
b) $36 \div 2 = 18$ pickers