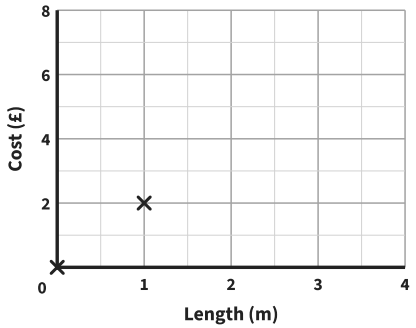
Direct and inverse proportion graphs

1

Rope costs £2 a metre. Complete the table, plot the points and draw the graph.

Length (m)	0	1	2	3	4
Cost (£)	0	2			

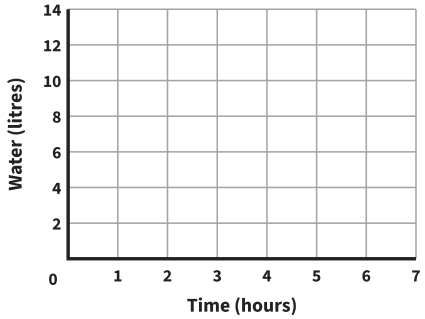


Cost of 2.5 m = £ _____

2

A tap leaks 2 litres of water every hour. Complete the table and draw the graph.

Time (hours)	0	2	4	6
Water (litres)	0	4		

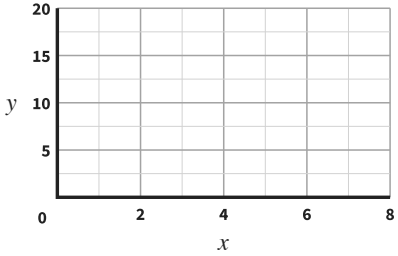


Time to leak 10 litres = _____

3

y is directly proportional to x.
Complete the table and draw the graph.

x	0	2	4	6	8
y	0	5	10		



1 square up = _____

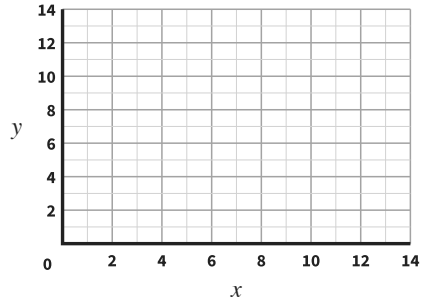
y when $x = 7$: _____

4

Notice the change!

y is inversely proportional to x.
Complete the table and draw the graph.

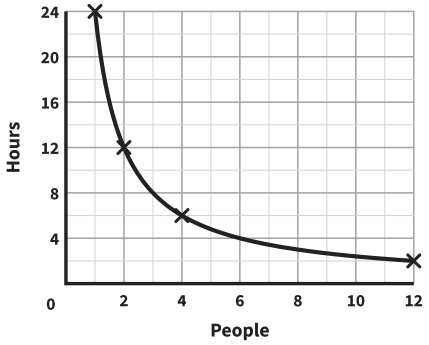
x	2	3	4	8	12
y	12				



y when $x = 6$: _____

5

The graph shows how long it takes to pack food parcels with different numbers of people.

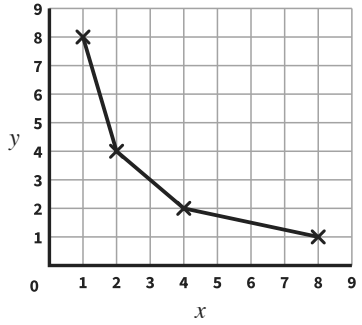


Hours for 3 people = _____

People to finish in 4 hours = _____

6

y is inversely proportional to x.
Mia plotted the points and joined them.
What has she done wrong?

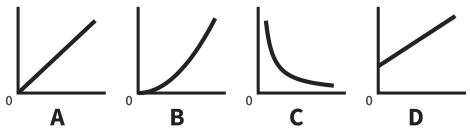


_____

_____

7

Each sketch shows y against x.
Which shows direct proportion?
Which shows inverse proportion?

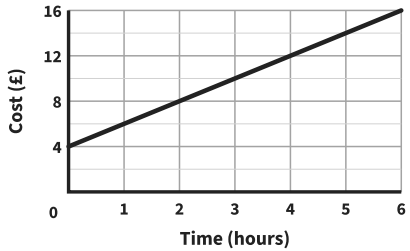


Direct proportion: _____

Inverse proportion: _____

8

The graph shows the cost of hiring a canoe. Sam says the cost is directly proportional to the time.
Is he right? Explain.



_____

_____

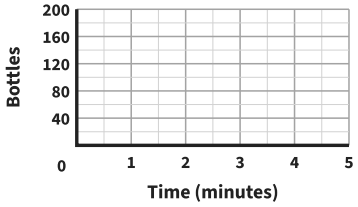
Cost for 3 hours = £ _____

Direct and inverse proportion graphs *further practice*

9

A machine fills 40 bottles a minute. Complete the table and draw the graph. How long does it take to fill 140 bottles?

Minutes	0	1	2	3	4
Bottles	0	40			

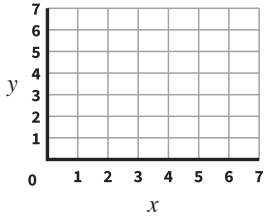


Answer _____

10

y is inversely proportional to x. Complete the table and draw the graph. Use it to estimate y when $x = 5$.

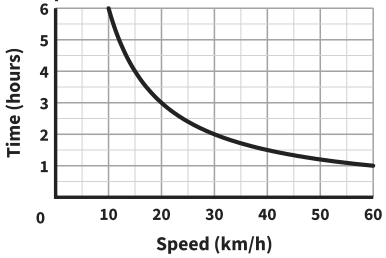
x	2	3	4	6
y	6			



$y \approx$ _____

11

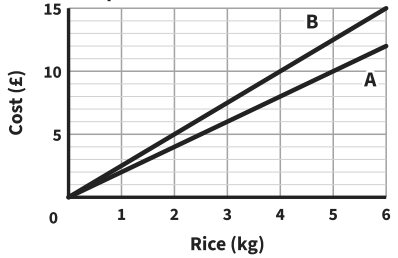
The graph shows the time a 60 km journey takes at different speeds. How long does it take at 20 km/h? What speed makes it take 1.5 hours?



Answer _____

12

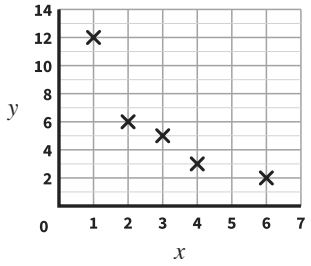
Two shops sell rice loose. The graph shows the cost at shop A and shop B. How much more does 4 kg cost at shop B?



Answer _____

13

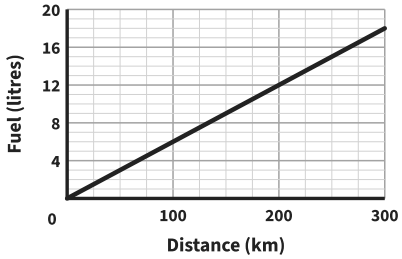
Leo plotted points where y is inversely proportional to x. One point is wrong. Which one? Where should it be?



Answer _____

14

The graph shows the fuel a van uses. Fuel costs £1.50 a litre. How much does the fuel for a 250 km trip cost?

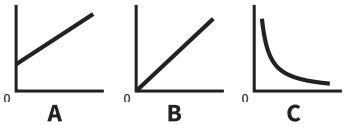


Answer _____

15

Match each situation to its sketch.

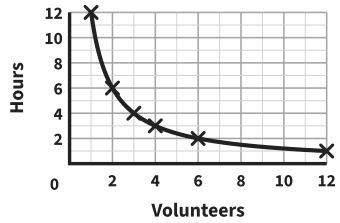
1. the cost of carrots against their mass
2. the time to dig a vegetable patch against the number of people
3. a taxi fare of £3 plus £2 a mile against the miles



Answer _____

16

One volunteer takes 12 hours to tidy a park. Explain why the graph of hours against the number of volunteers never touches the horizontal axis.



Answer _____