



ACHIEVE ACADEMY

GCSE Maths — Foundation Tier

Real-Life Graphs · Practice Booklet

NAME:

CLASS:

DATE:

☐ Developing

☒ Secure

☐ Greater Depth

Answer every question in the working space provided. Method marks are available for correct working even if the final answer is wrong. Check the time allowed with your tutor before you start.

Real-Life Graphs

Total marks available: 99

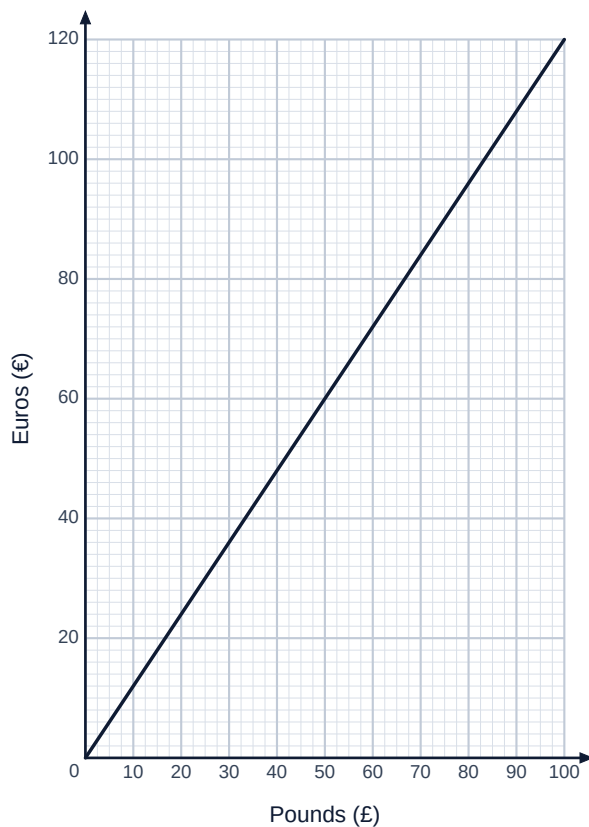
● Real-Life Graphs

Q1

[2 marks]

The graph can be used to convert between pounds (£) and euros (€).

- (a) Use the graph to change £65 to euros (€).
- (b) Use the graph to change €12 to pounds (£).



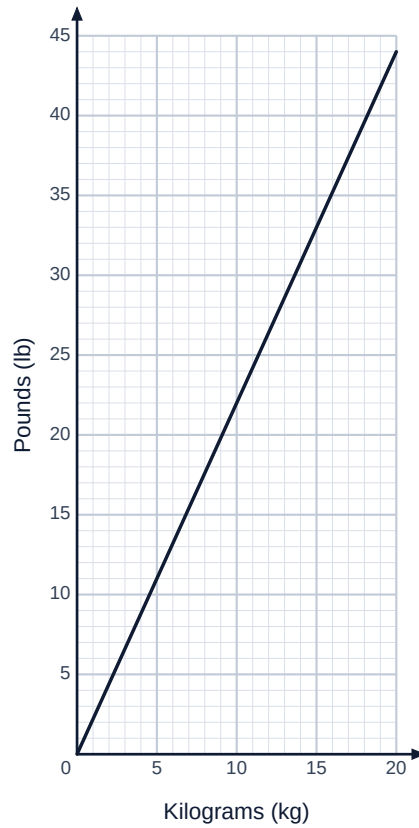
Q2

[2 marks]

The graph can be used to convert between kilograms and pounds (lb).

(a) Use the graph to change 15 kg to pounds (lb).

(b) Use the graph to change 22 lb to kilograms.



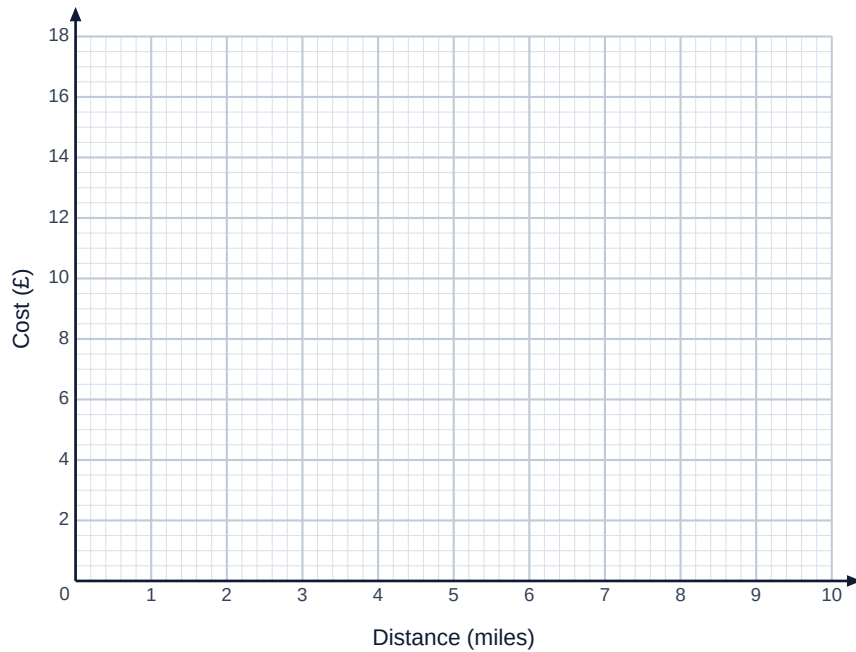
Q3

[2 marks]

A taxi company charges a fixed fee of £3 plus £1.50 for each mile.
The table shows some of the costs.

On the grid, draw a graph to show the cost for up to 10 miles.

Distance (miles)	0	2	4	6	8	10
Cost (£)	3	6	9	12	15	18



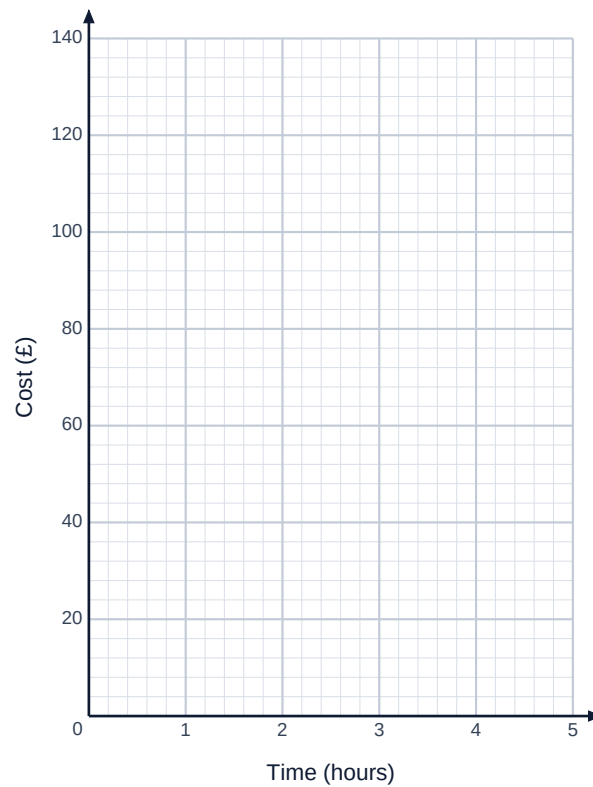
Q4

[2 marks]

A plumber charges a call-out fee of £40 plus £20 for each hour of work.
The table shows some of the costs.

On the grid, draw a graph to show the cost for up to 5 hours.

Time (hours)	0	1	2	3	4	5
Cost (£)	40	60	80	100	120	140

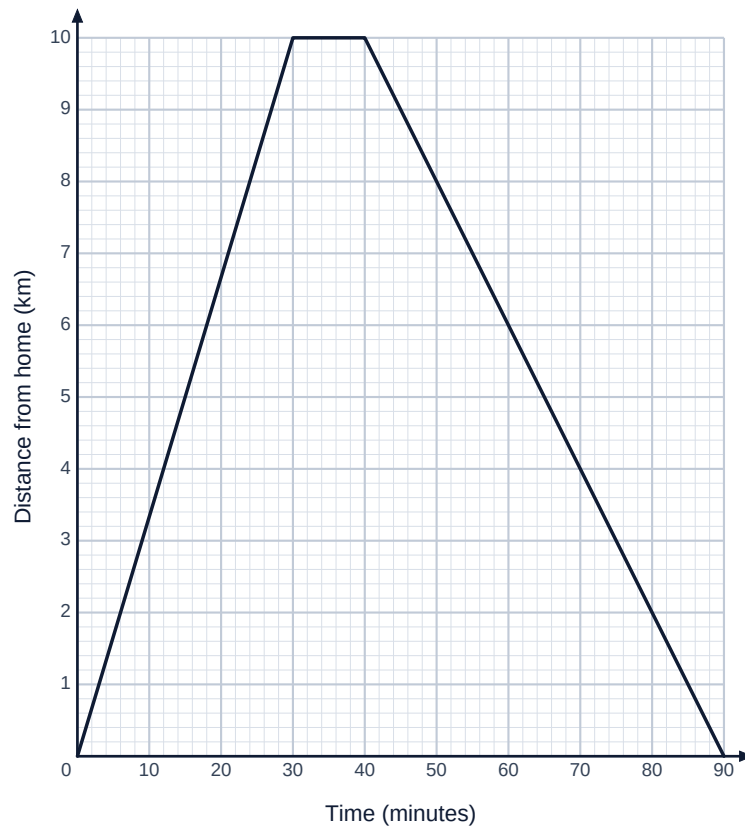


Q5

[3 marks]

Amir cycles from home to the park, stays there for a while, and then returns home.
The distance-time graph shows the journey.

- (a) How far is the park from Amir's home?
- (b) How many minutes did Amir stay at the park?
- (c) How many minutes after leaving did Amir get back home?

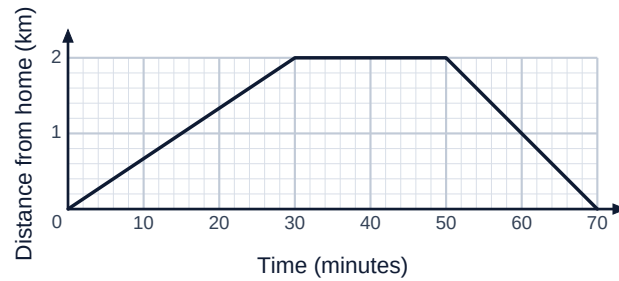


Q6

[3 marks]

Mia walks from home to her friend's house, stays there for a while, and then returns home. The distance-time graph shows the journey.

- (a) How far is her friend's house from Mia's home?
- (b) How many minutes did Mia stay at her friend's house?
- (c) How many minutes after leaving did Mia get back home?

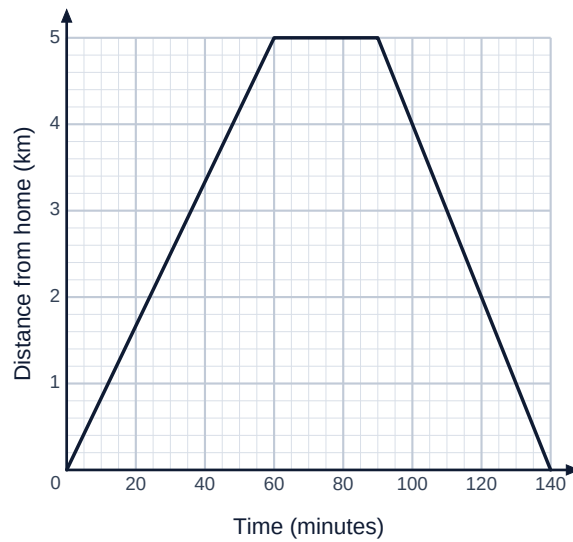


Q7

[3 marks]

Mia walks from home to her friend's house, stays there for a while, and then returns home. The distance-time graph shows the journey.

- (a) How far is her friend's house from Mia's home?
- (b) How many minutes did Mia stay at her friend's house?
- (c) How many minutes after leaving did Mia get back home?



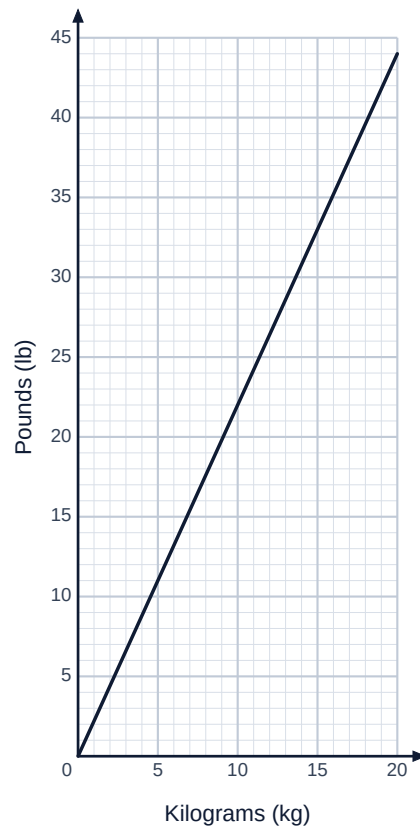
Q8

[2 marks]

The graph can be used to convert between kilograms and pounds (lb).

(a) Use the graph to change 10 kg to pounds (lb).

(b) Use the graph to change 33 lb to kilograms.

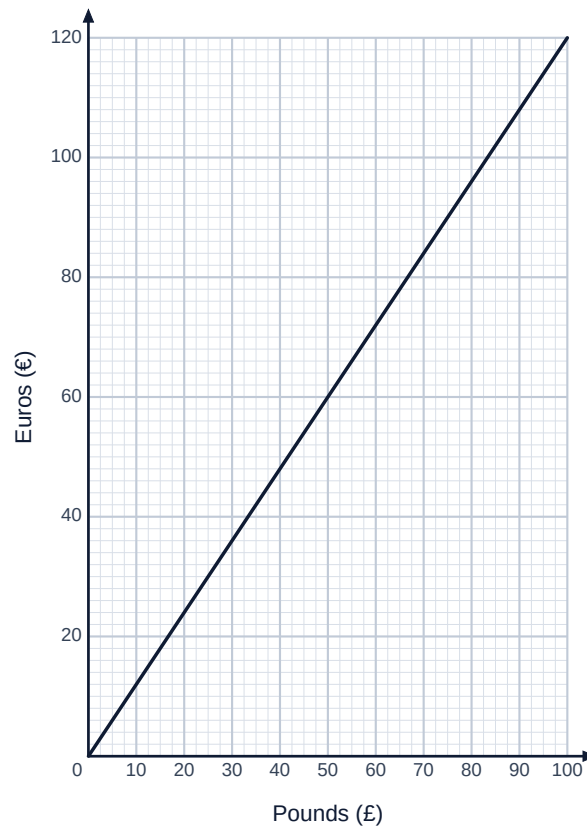


Q9

[2 marks]

The graph can be used to convert between pounds (£) and euros (€).

- (a) Use the graph to change £85 to euros (€).
(b) Use the graph to change €60 to pounds (£).



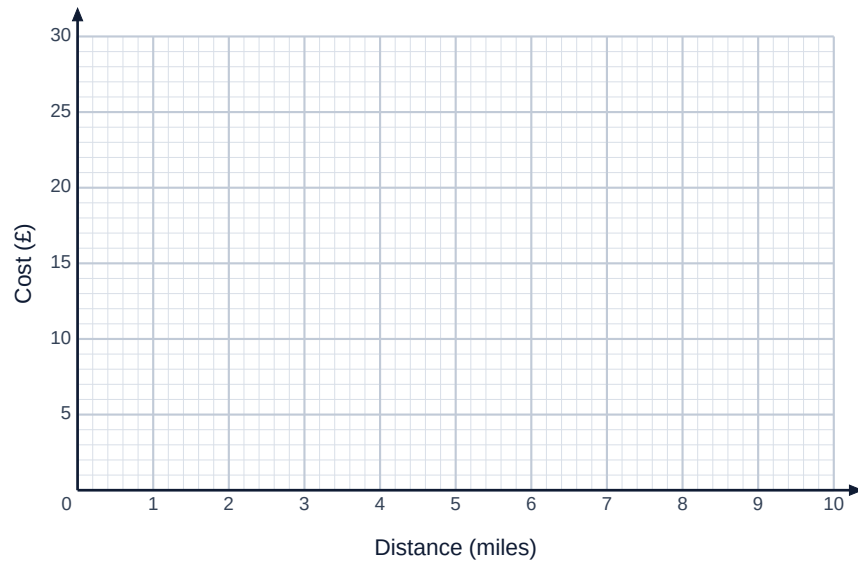
Q10

[2 marks]

A taxi company charges a fixed fee of £2 plus £2.50 for each mile.
The table shows some of the costs.

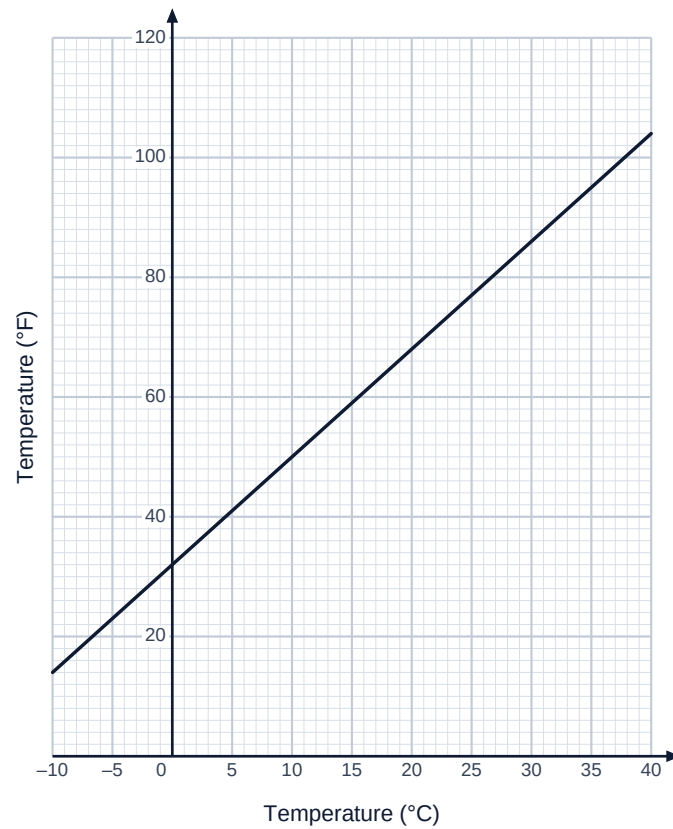
On the grid, draw a graph to show the cost for up to 10 miles.

Distance (miles)	0	2	4	6	8	10
Cost (£)	2	7	12	17	22	27



The graph can be used to convert temperatures between degrees Celsius ($^{\circ}\text{C}$) and degrees Fahrenheit ($^{\circ}\text{F}$).

- (a) Use the graph to change -10°C to $^{\circ}\text{F}$.
- (b) Use the graph to change 86°F to $^{\circ}\text{C}$.
- (c) Water freezes at 0°C . What is this in $^{\circ}\text{F}$?



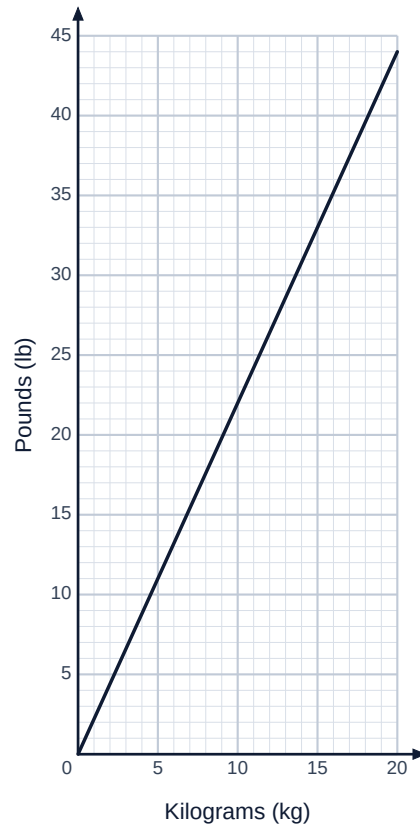
Q12

[3 marks]

The graph can be used to convert between kilograms and pounds (lb).

(a) Use the graph to change 11 lb to kilograms.

(b) The graph only goes up to 20 kg. Use the graph to change 100 kg to pounds (lb).



Q13

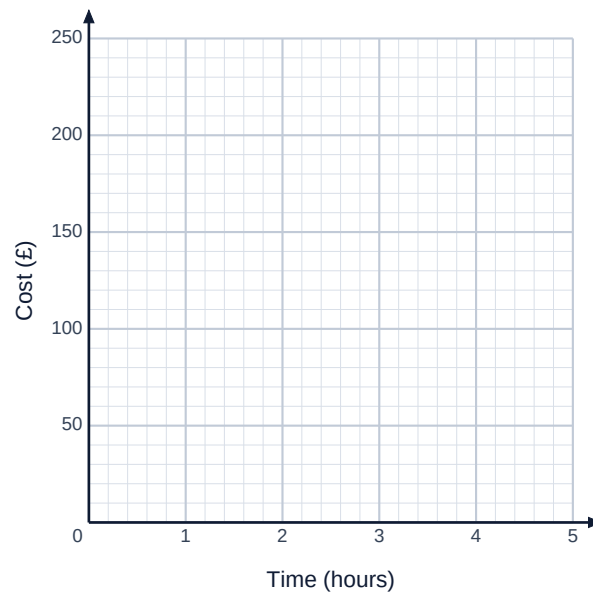
[4 marks]

A plumber charges a call-out fee of £30 plus £40 for each hour of work.

(a) Complete the table.

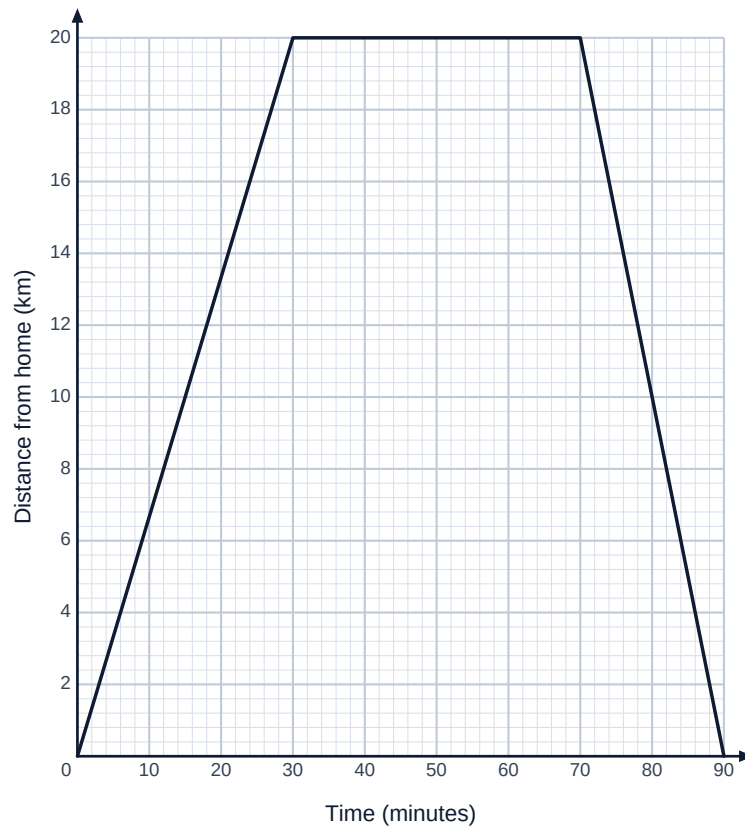
(b) On the grid, draw a graph to show the cost for up to 5 hours.

Time (hours)	0	1	2	3	4	5
Cost (£)	30	70				230



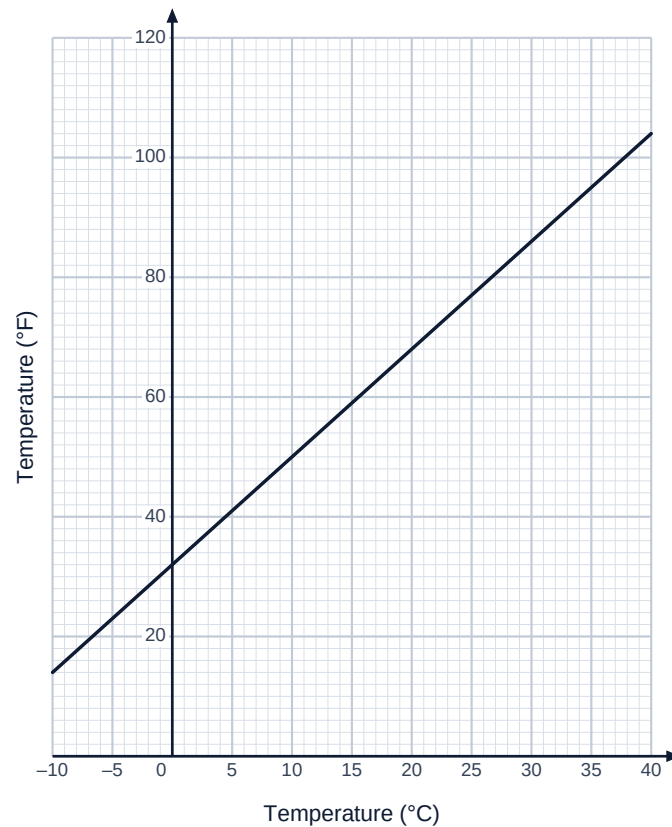
Mr Khan drives from home to the garden centre, stays there, and then returns home. The distance-time graph shows the journey.

- (a) Work out Mr Khan's speed, in km/h, on the way to the garden centre.
- (b) Was Mr Khan faster on the way there or on the way back? Write down the start and end times, in minutes, of the faster part.



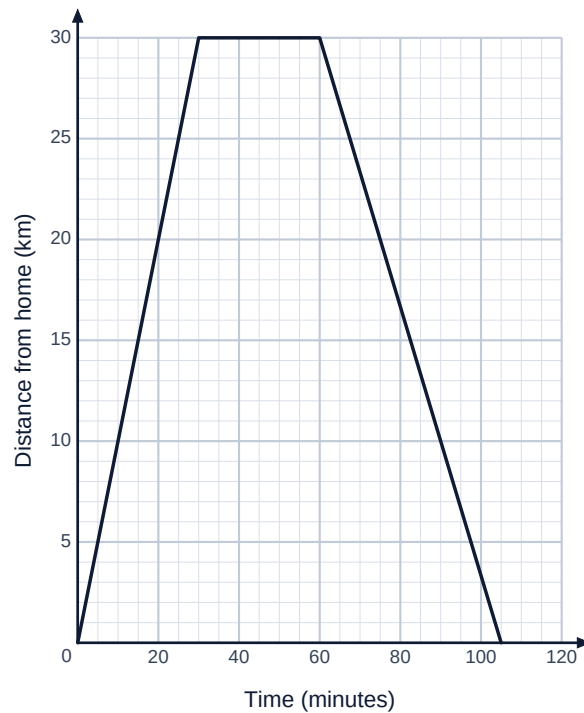
The graph can be used to convert temperatures between degrees Celsius ($^{\circ}\text{C}$) and degrees Fahrenheit ($^{\circ}\text{F}$).

- (a) Use the graph to change 10°C to $^{\circ}\text{F}$.
- (b) Use the graph to change 86°F to $^{\circ}\text{C}$.
- (c) Water freezes at 0°C . What is this in $^{\circ}\text{F}$?



Mr Khan drives from home to the garden centre, stays there, and then returns home.
The distance-time graph shows the journey.

- (a) Work out Mr Khan's speed, in km/h, on the way to the garden centre.
(b) Was Mr Khan faster on the way there or on the way back? Write down the start and end times, in minutes, of the faster part.



Q17

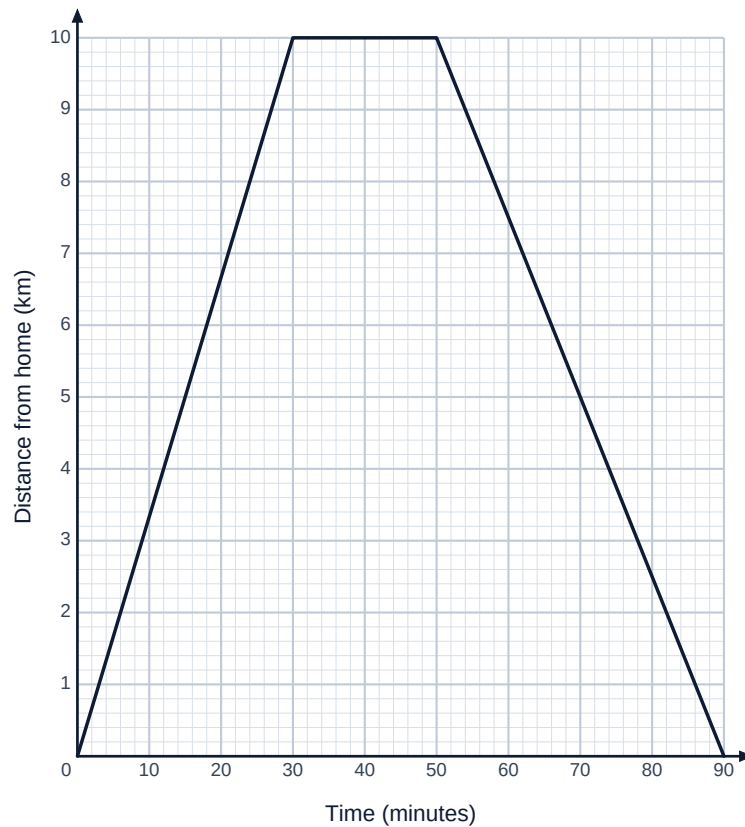
[4 marks]

Amir cycles from home to the park, stays there, and then returns home.

The distance-time graph shows the journey.

(a) Work out Amir's speed, in km/h, on the way to the park.

(b) Was Amir faster on the way there or on the way back? Write down the start and end times, in minutes, of the faster part.



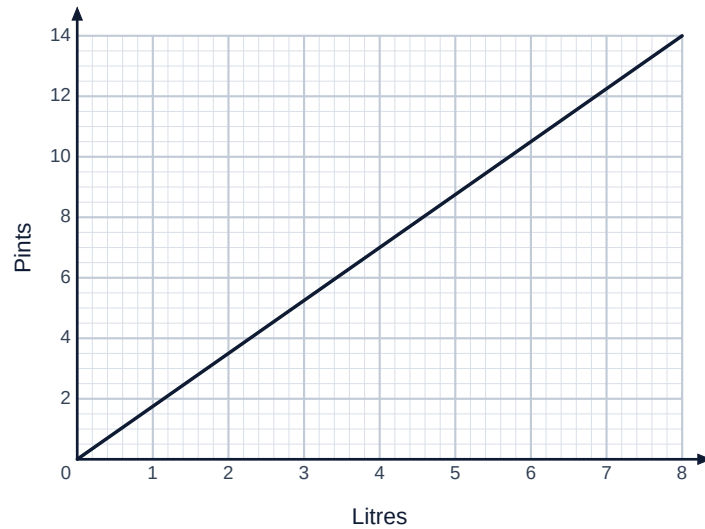
Q18

[3 marks]

The graph can be used to convert between litres and pints.

(a) Use the graph to change 7 pints to litres.

(b) The graph only goes up to 8 litres. Use the graph to change 24 litres to pints.



Q19

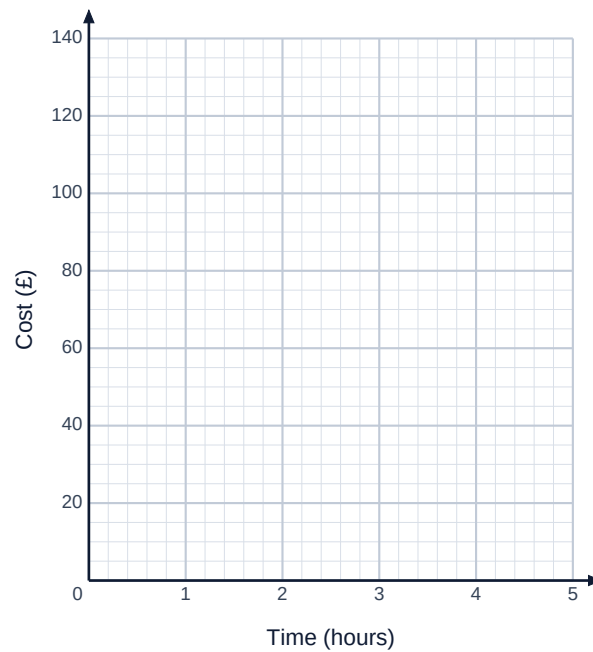
[4 marks]

A plumber charges a call-out fee of £30 plus £20 for each hour of work.

(a) Complete the table.

(b) On the grid, draw a graph to show the cost for up to 5 hours.

Time (hours)	0	1	2	3	4	5
Cost (£)	30		70			130

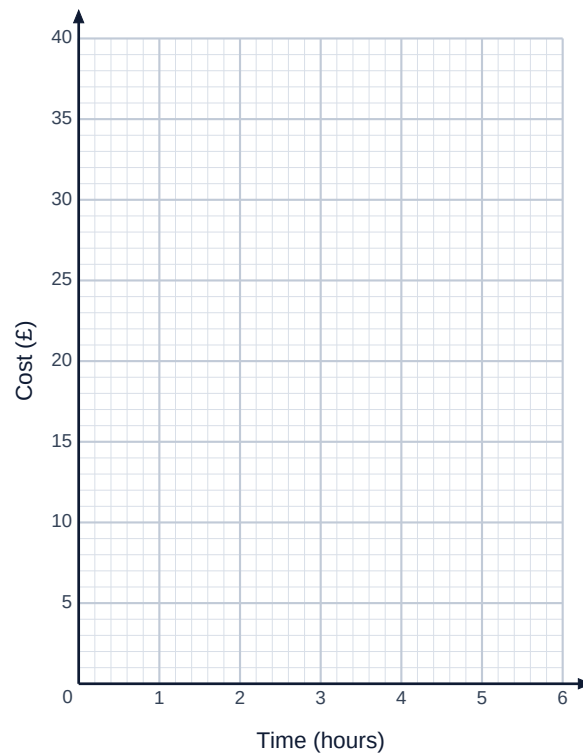


A shop hires out bikes for £8 plus £5 for each hour.

(a) Complete the table.

(b) On the grid, draw a graph to show the cost for up to 6 hours.

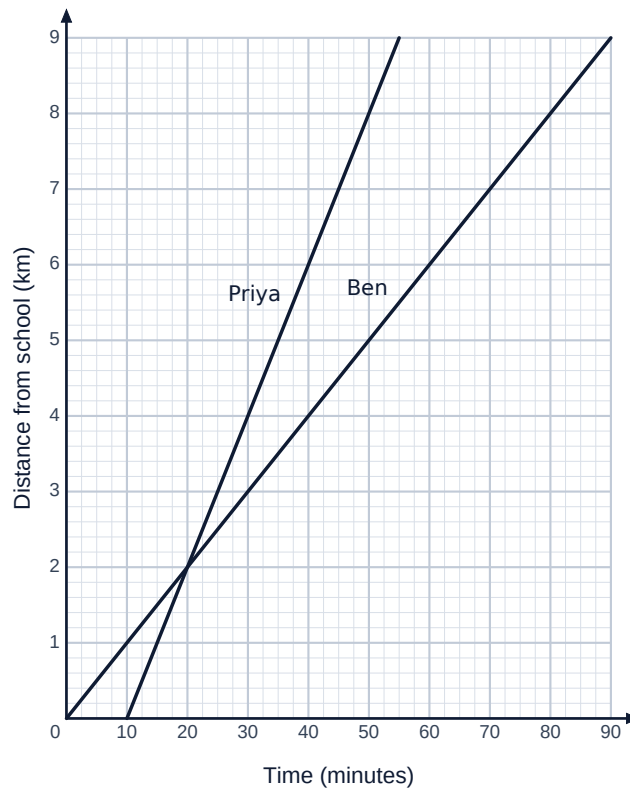
Time (hours)	0	1	2	3	4	5	6
Cost (£)	8			23	28		38



Ben walks from school to the library. Priya leaves school later and cycles along the same road to the library.

The graph shows both journeys.

- (a) How many minutes after Ben set off did Priya overtake Ben?
- (b) How far from school were they when this happened?
- (c) Work out Priya's cycling speed in km/h.



Q22

[5 marks]

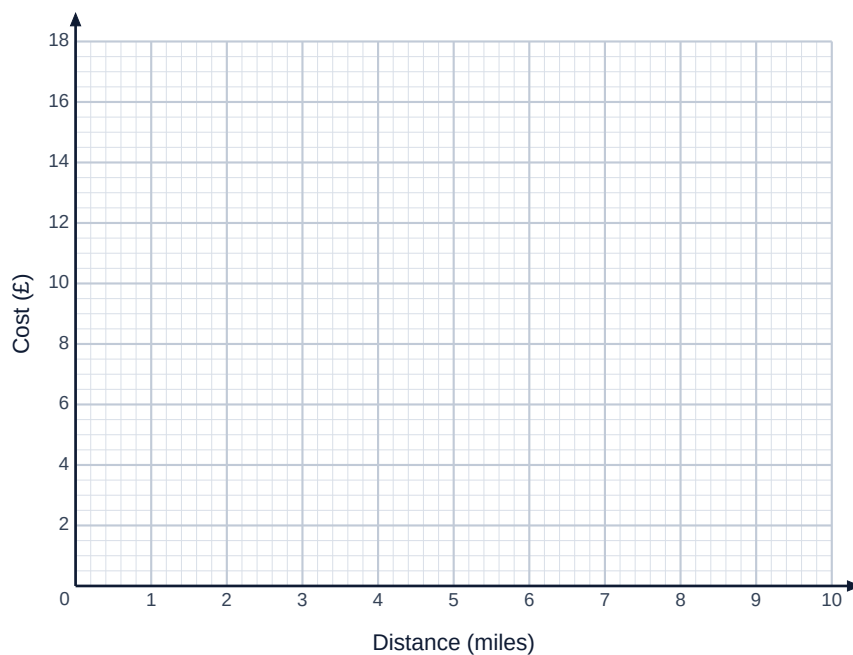
A taxi company charges a fixed fee of £2 plus £1.50 for each mile.

(a) Complete the table.

(b) On the grid, draw a graph to show the cost for up to 10 miles.

(c) The cost is £12.50. Use your graph to find the number of miles.

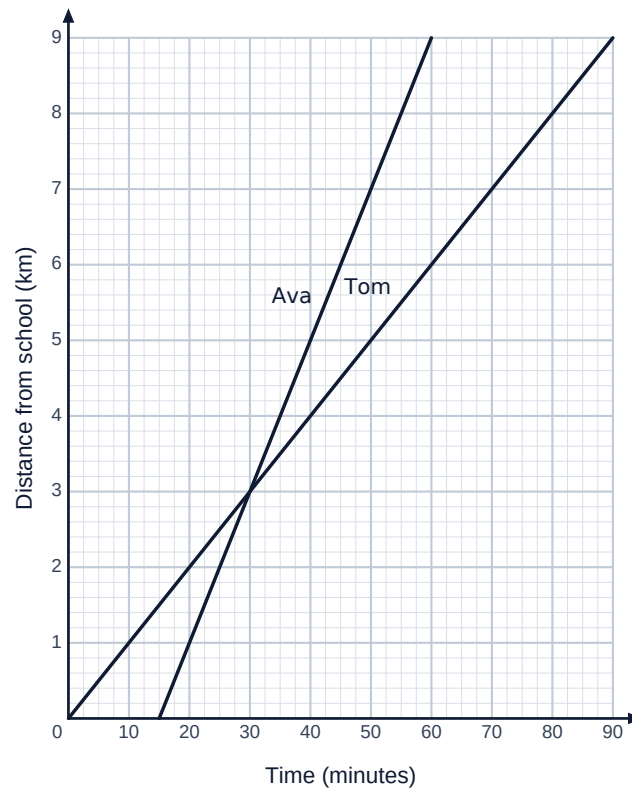
Distance (miles)	0	2	4	6	8	10
Cost (£)	2	5		11		17



Tom walks from school to the library. Ava leaves school later and cycles along the same road to the library.

The graph shows both journeys.

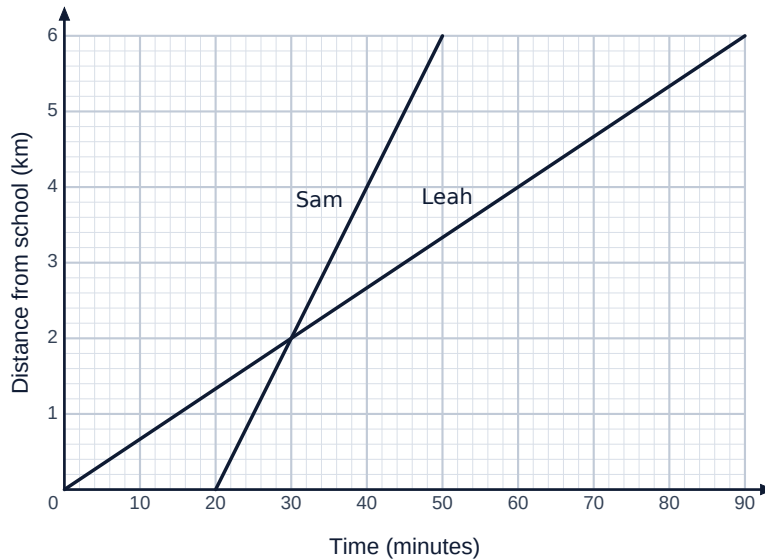
- (a) How many minutes after Tom set off did Ava overtake Tom?
- (b) How far from school were they when this happened?
- (c) Work out Ava's cycling speed in km/h.



Leah walks from school to the library. Sam leaves school later and cycles along the same road to the library.

The graph shows both journeys.

- (a) How many minutes after Leah set off did Sam overtake Leah?
- (b) How far from school were they when this happened?
- (c) Work out Sam's cycling speed in km/h.



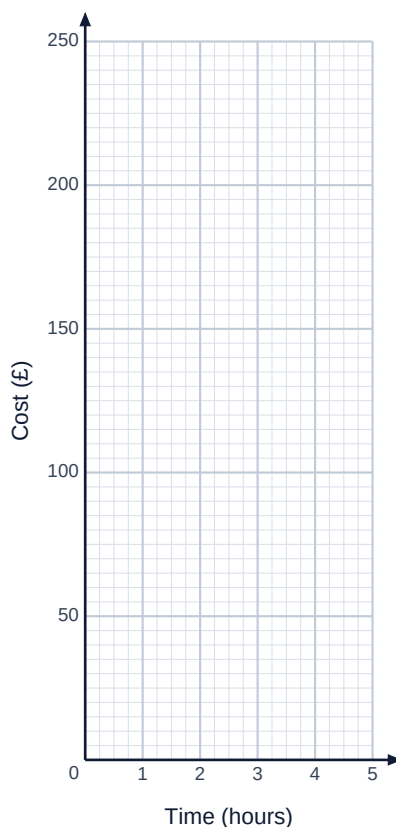
A plumber charges a call-out fee of £60 plus £30 for each hour of work.

(a) Complete the table.

(b) On the grid, draw a graph to show the cost for up to 5 hours.

(c) The cost is £75. Use your graph to find the number of hours.

Time (hours)	0	1	2	3	4	5
Cost (£)	60	90	120	150		



Q26

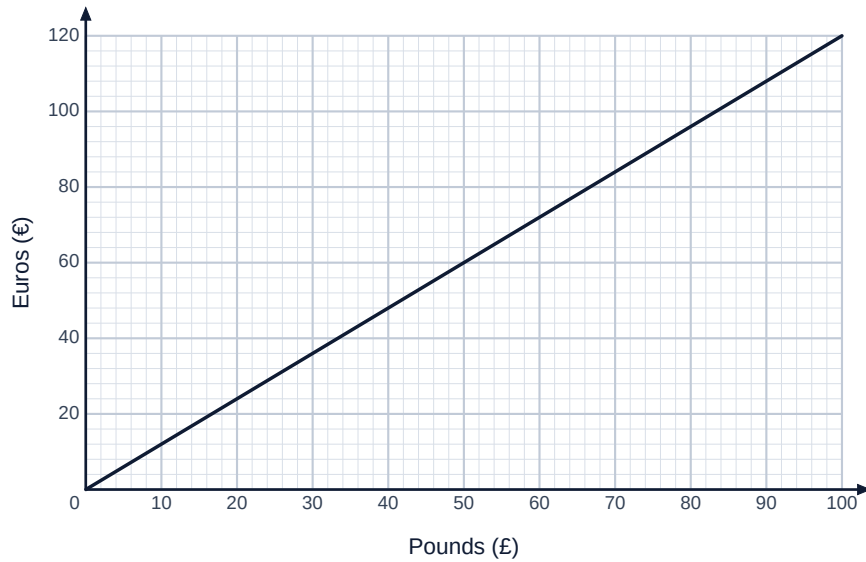
[3 marks]

The graph can be used to convert between pounds (£) and euros (€).

A pair of trainers costs €240 in Paris and £188 in London.

(a) Use the graph to change €60 to pounds.

(b) In which city is the pair of trainers cheaper, and by how many pounds?

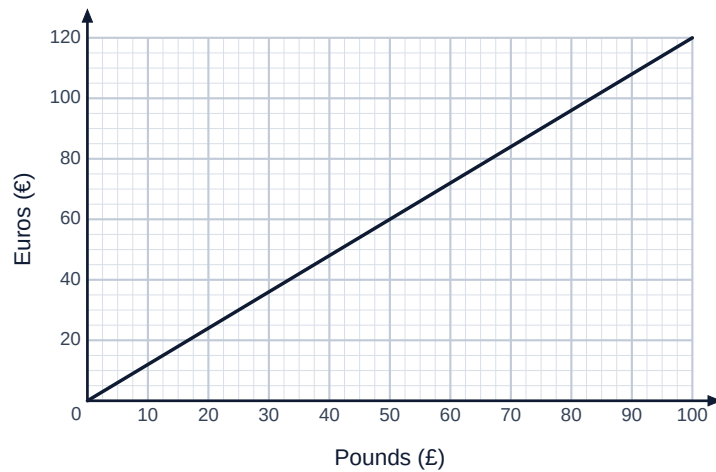


Q27

[3 marks]

The graph can be used to convert between pounds (£) and euros (€).
A suitcase costs €120 in Paris and £88 in London.

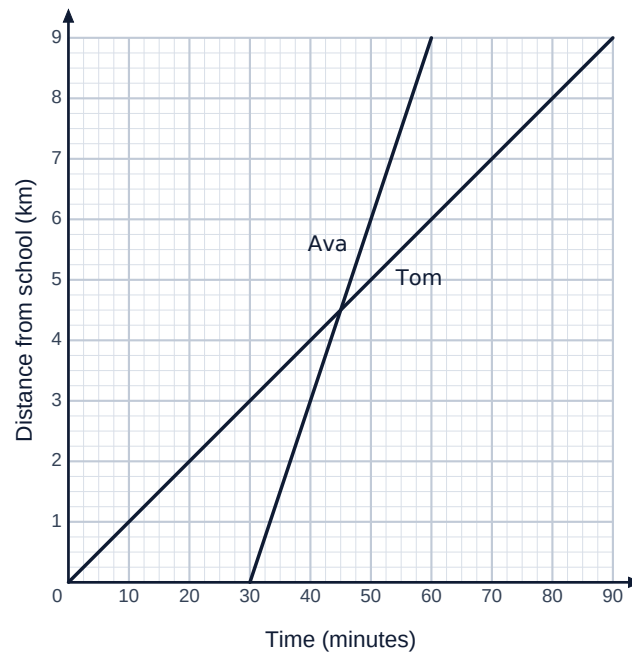
- (a) Use the graph to change €30 to pounds.
(b) In which city is the suitcase cheaper, and by how many pounds?



Tom walks from school to the library. Ava leaves school later and cycles along the same road to the library.

The graph shows both journeys.

- (a) How many minutes after Tom set off did Ava overtake Tom?
- (b) How far from school were they when this happened?
- (c) Work out Ava's cycling speed in km/h.



Q29

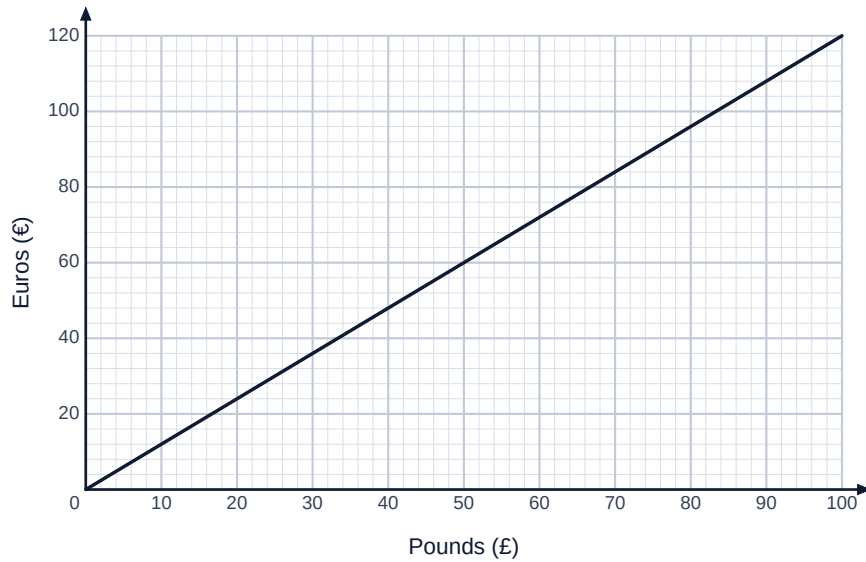
[3 marks]

The graph can be used to convert between pounds (£) and euros (€).

A tennis racket costs €108 in Paris and £95 in London.

(a) Use the graph to change €36 to pounds.

(b) In which city is the tennis racket cheaper, and by how many pounds?



A phone plan costs £5 a month plus 5p for each minute of calls.

(a) Complete the table.

(b) On the grid, draw a graph to show the cost for up to 100 minutes.

(c) The cost is £6.50. Use your graph to find the number of minutes.

Minutes	0	20	40	60	80	100
Cost (£)	5	6		8		10

