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GCSE MATHS

Algebra

Edexcel 1MA1 | Subtopic collection Topic 24

Graphs of functions

Foundation tier

Past paper question booklet

88	2010-2025	Foundation
question groups	available papers	tier

Before you begin

1. Show working and use units where appropriate.
2. Use extra paper if you need more space.
3. Print at actual size (100%) for measurement questions.

Name _____ **Date** _____

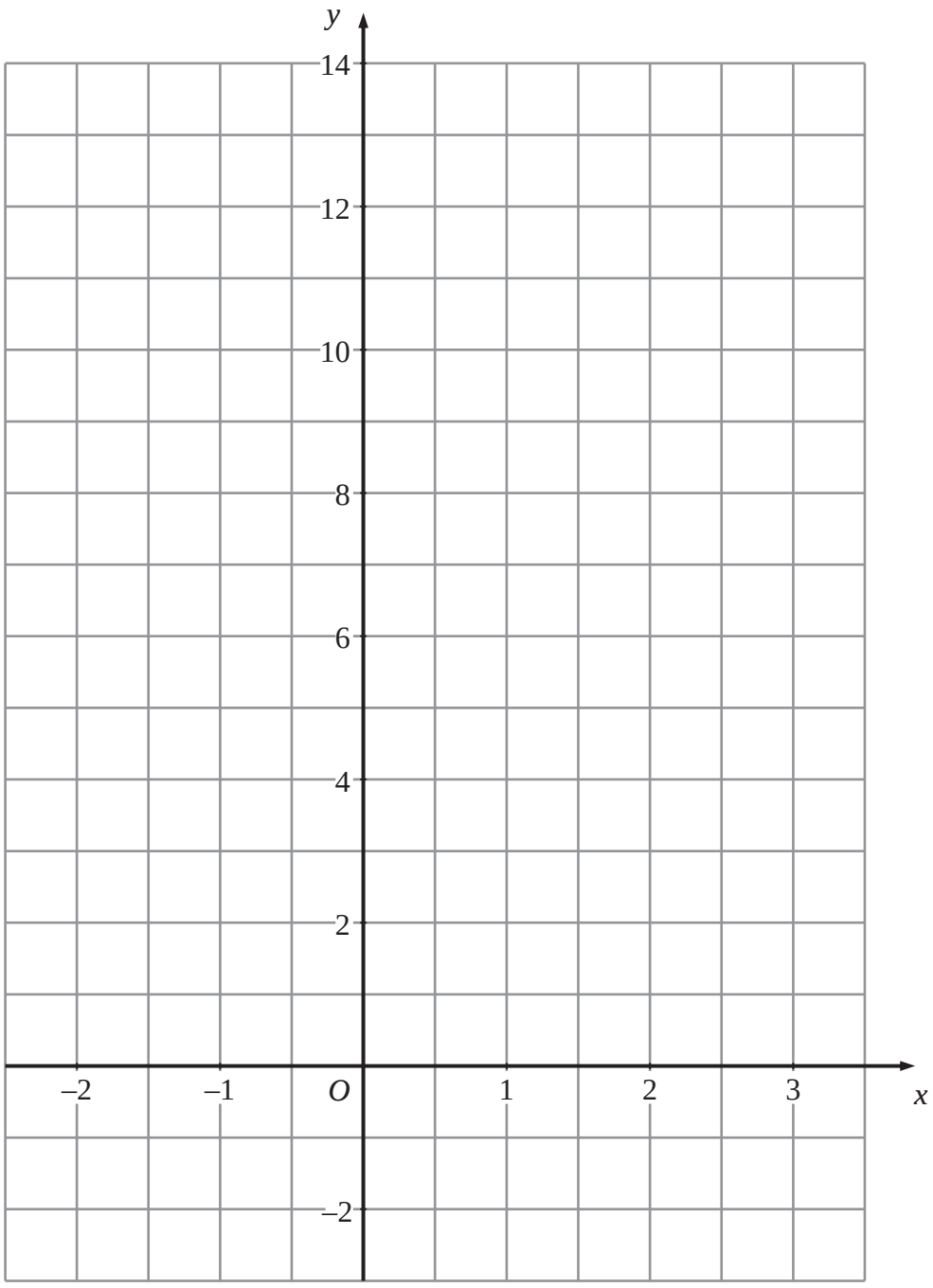
Whole questions are retained for context; some parts cover other points. Legacy sources are labelled.

11 (a) Complete the table of values for $y = 3x + 4$

x	–2	–1	0	1	2	3
y		1				13

(2)

(b) On the grid, draw the graph of $y = 3x + 4$



(2)

(Total for Question 11 is 4 marks)

12 Sarah goes to the gym on her way to work.
The table shows what she wants to do before arriving at work.

Activity	Time (mins)
Drive from home to gym	10
Exercise at gym	45
Shower and change	20
Drive from gym to work	25

She has to arrive at work at 08 50

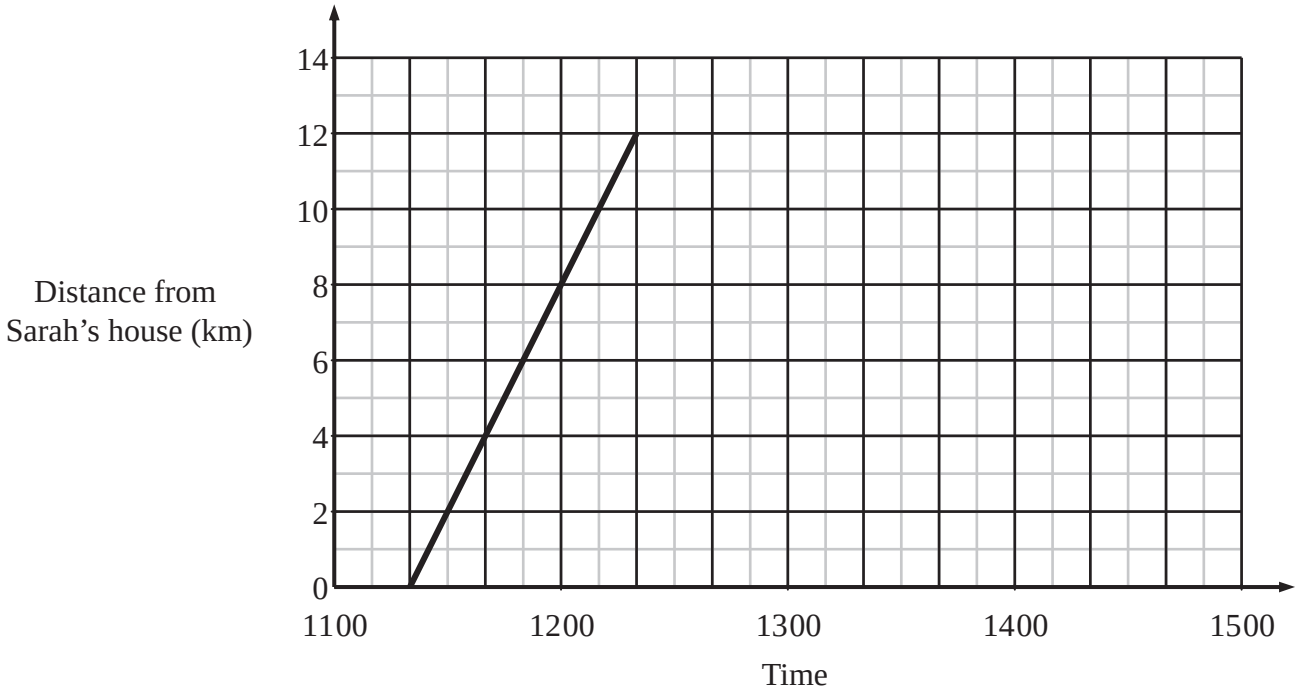
(a) What is the latest time she can leave home?

.....

(3)

Each Saturday, Sarah cycles from her house to the gym.

The travel graph shows Sarah's journey to the gym.



(b) What time does she leave home?

.....

(1)

(c) How far is the gym from Sarah's house?

..... km

(1)

Sarah stays at the gym for $1\frac{1}{2}$ hours.

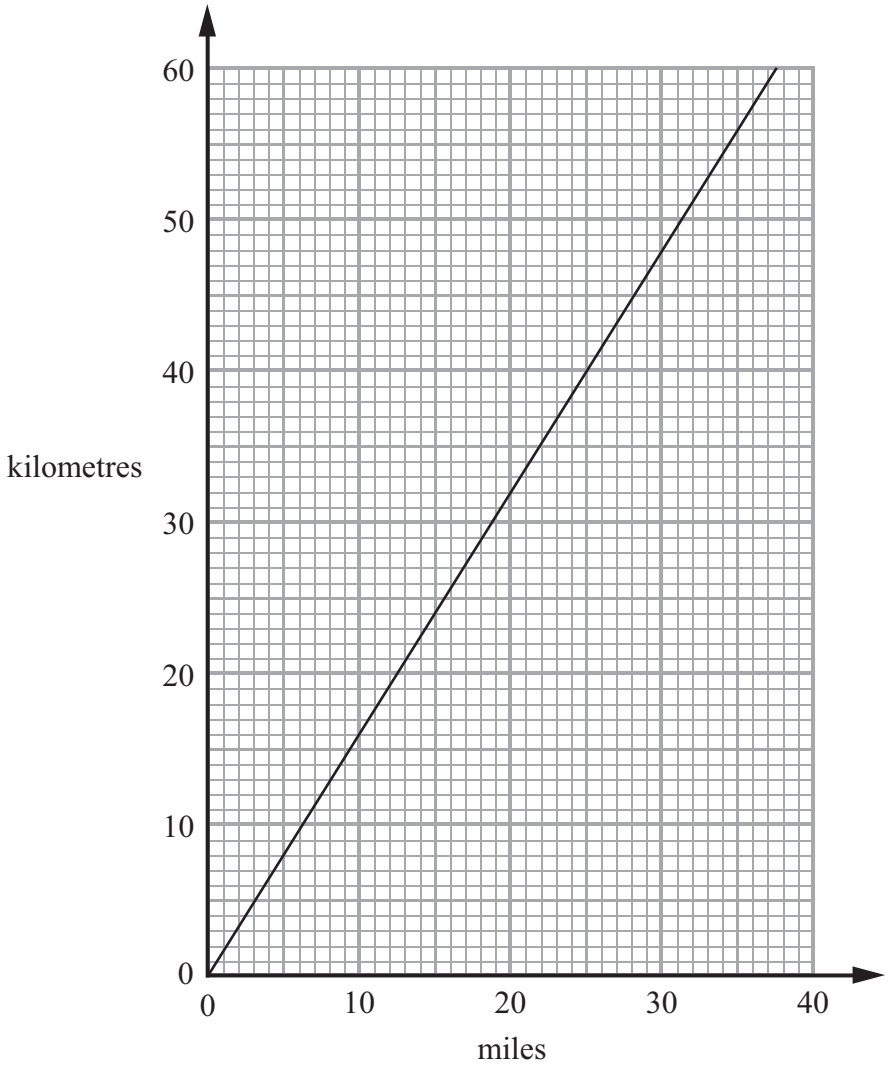
She then cycles back to her house at 18 km/h.

(d) Complete the travel graph.

(3)

(Total for Question 12 is 8 marks)

9 This conversion graph can be used to change between miles and kilometres.



(a) Use the graph to change 30 miles to kilometres.

..... kilometres
(1)

(b) Use the graph to change 40 kilometres to miles.

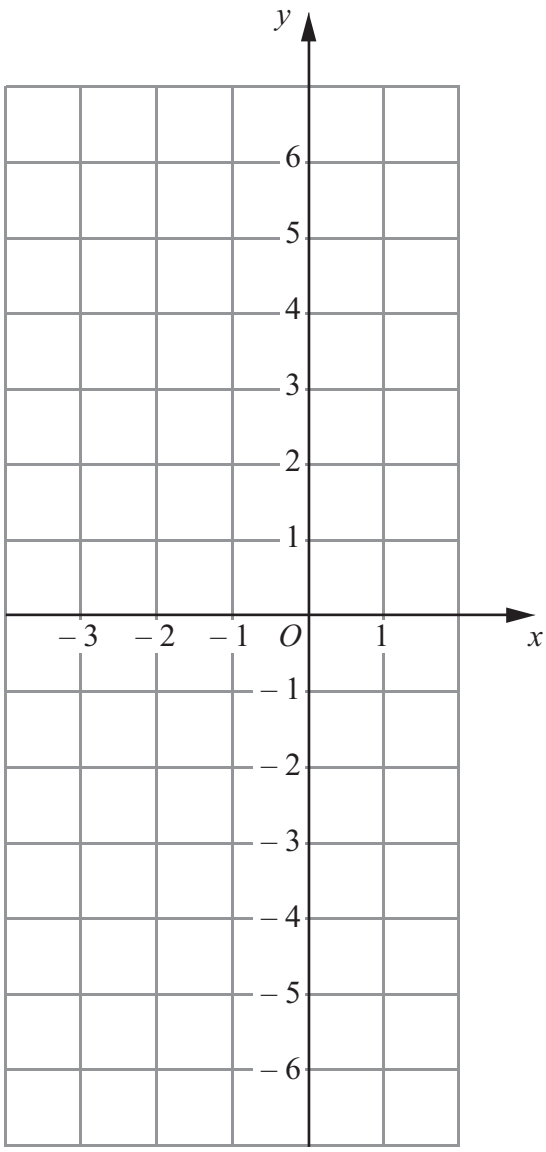
..... miles
(1)

(c) Change 100 miles to kilometres.

..... kilometres
(2)

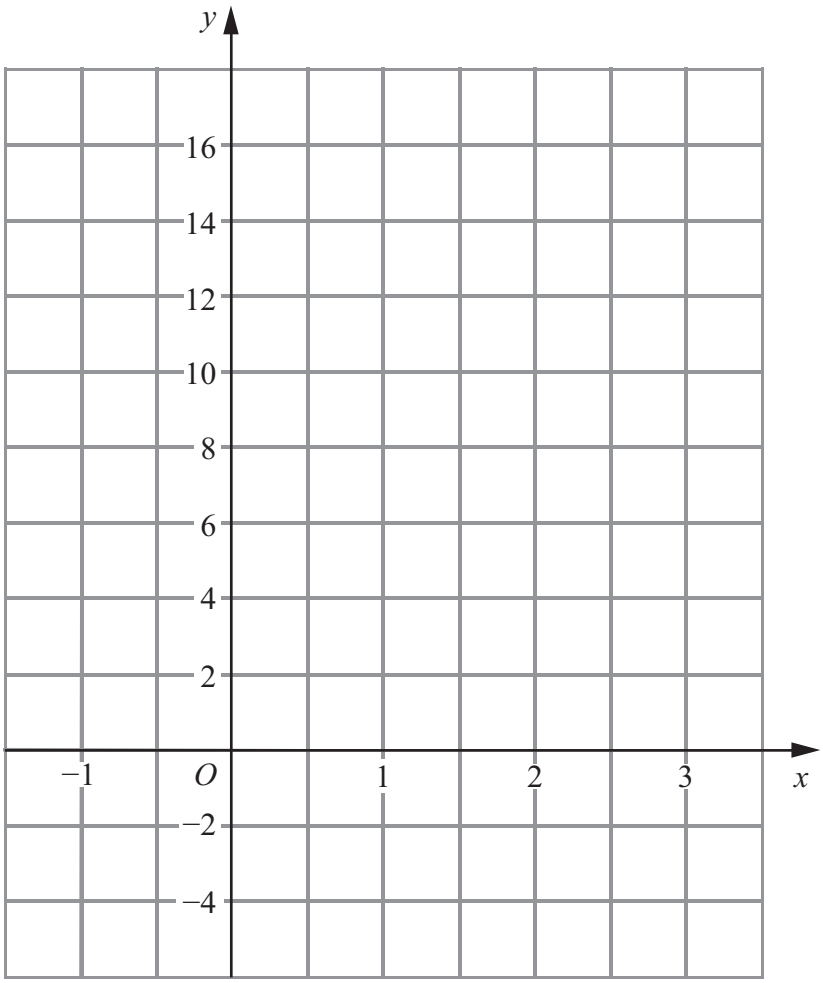
(Total for Question 9 is 4 marks)

14 On the grid, draw the graph of $y = 2x + 3$ for values of x from $x = -3$ to $x = 1$



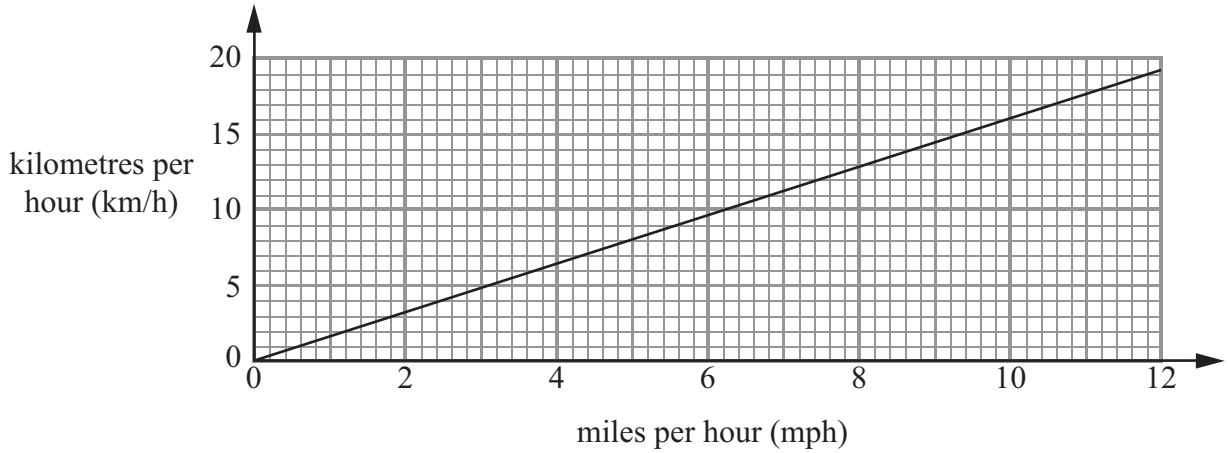
(Total for Question 14 is 3 marks)

18 On the grid, draw the graph of $y = 4x + 2$ from $x = -1$ to $x = 3$



(Total for Question 18 is 3 marks)

10



This conversion graph can be used to change between kilometres per hour (km/h) and miles per hour (mph).

(a) Use the conversion graph to change 10 mph to km/h.

..... km/h

(1)

(b) Use the conversion graph to change 4 km/h to mph.

..... mph

(1)

Stefan runs at an average speed of 6 mph.
Debbie runs at an average speed of 10.5 km/h.

(c) (i) Who has the greater average speed, Stefan or Debbie?

.....

(ii) How did you get your answer?

.....

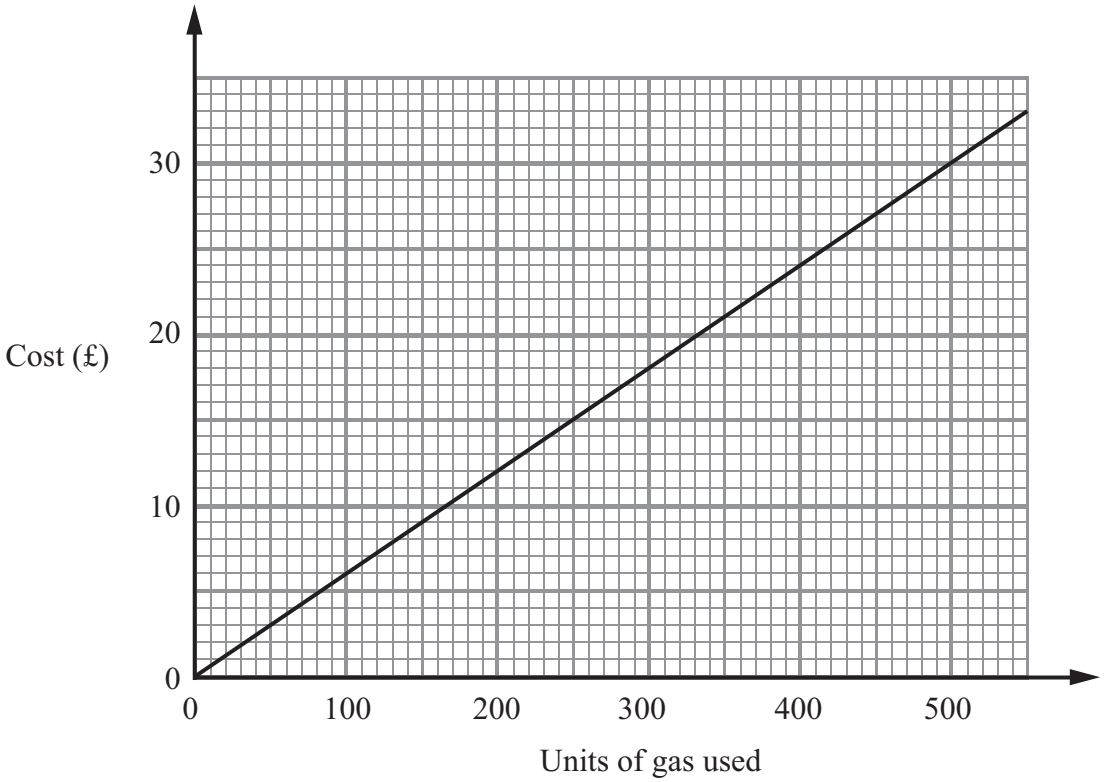
.....

(2)

(Total for Question 10 is 4 marks)

6 A gas company charges the same amount for each unit of gas used.

Karen uses the graph to work out the cost of the gas she has used.



(a) Use the graph to write down

(i) the cost of 200 units of gas,

£ .....

(ii) the number of units of gas used when the cost is £27

..... units

(2)

(b) Work out the cost of one unit of gas.

.....

(2)

(c) Work out the cost of 1300 units of gas.

.....

(2)

(Total for Question 6 is 6 marks)

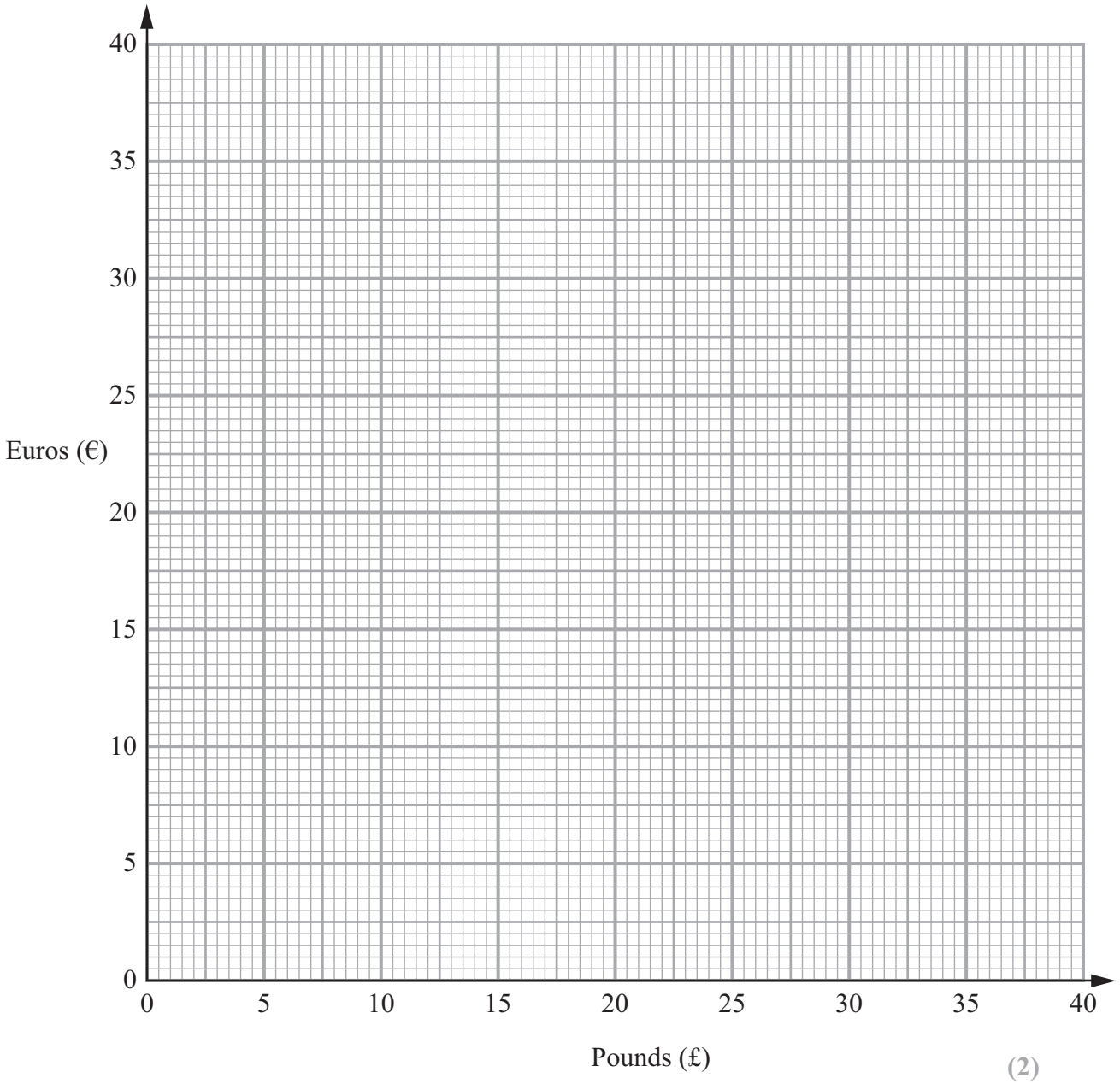
11 The exchange rate for pounds (£) to euros (€) is £1 = €1.20

(a) Complete the table of values.

£	0	1	5	10	15	20	25	30
€		1.20	6			24	30	

(2)

(b) On the grid, draw a conversion graph for pounds (£) to euros (€).



(2)

Louise changes £250 into euros.

(c) Work out how many euros Louise should get.

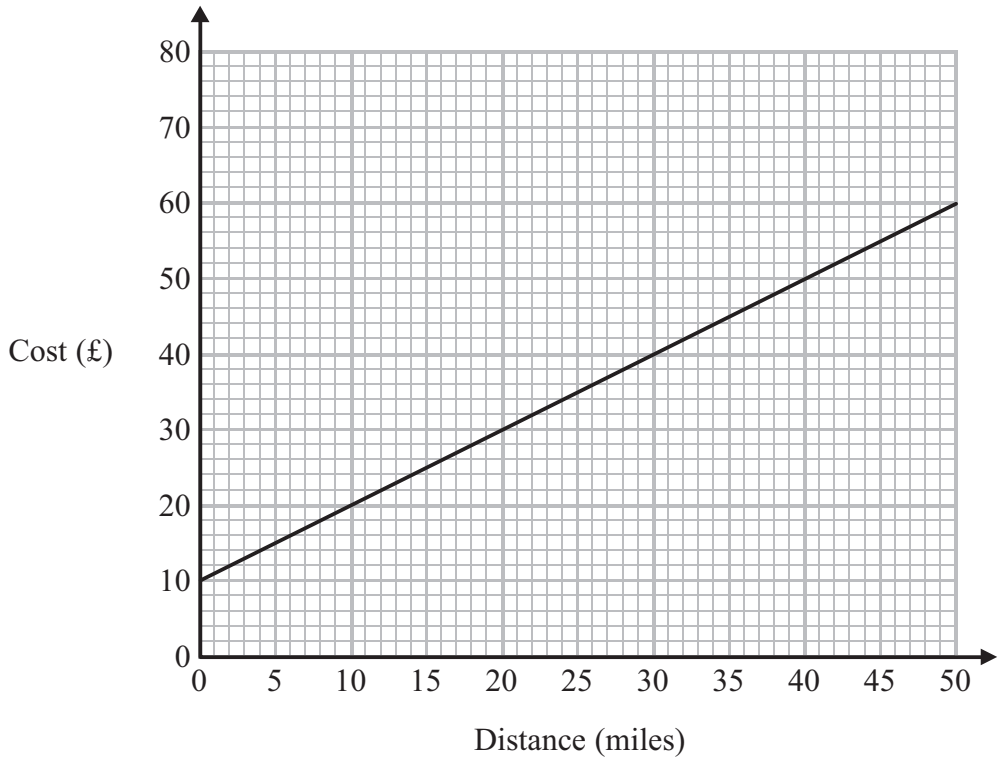
..... euros

(2)

(Total for Question 11 is 6 marks)

***18** Bill uses his van to deliver parcels.
For each parcel Bill delivers there is a fixed charge plus £1.00 for each mile.

You can use the graph to find the total cost of having a parcel delivered by Bill.



(a) How much is the fixed charge?

£ .....

(1)

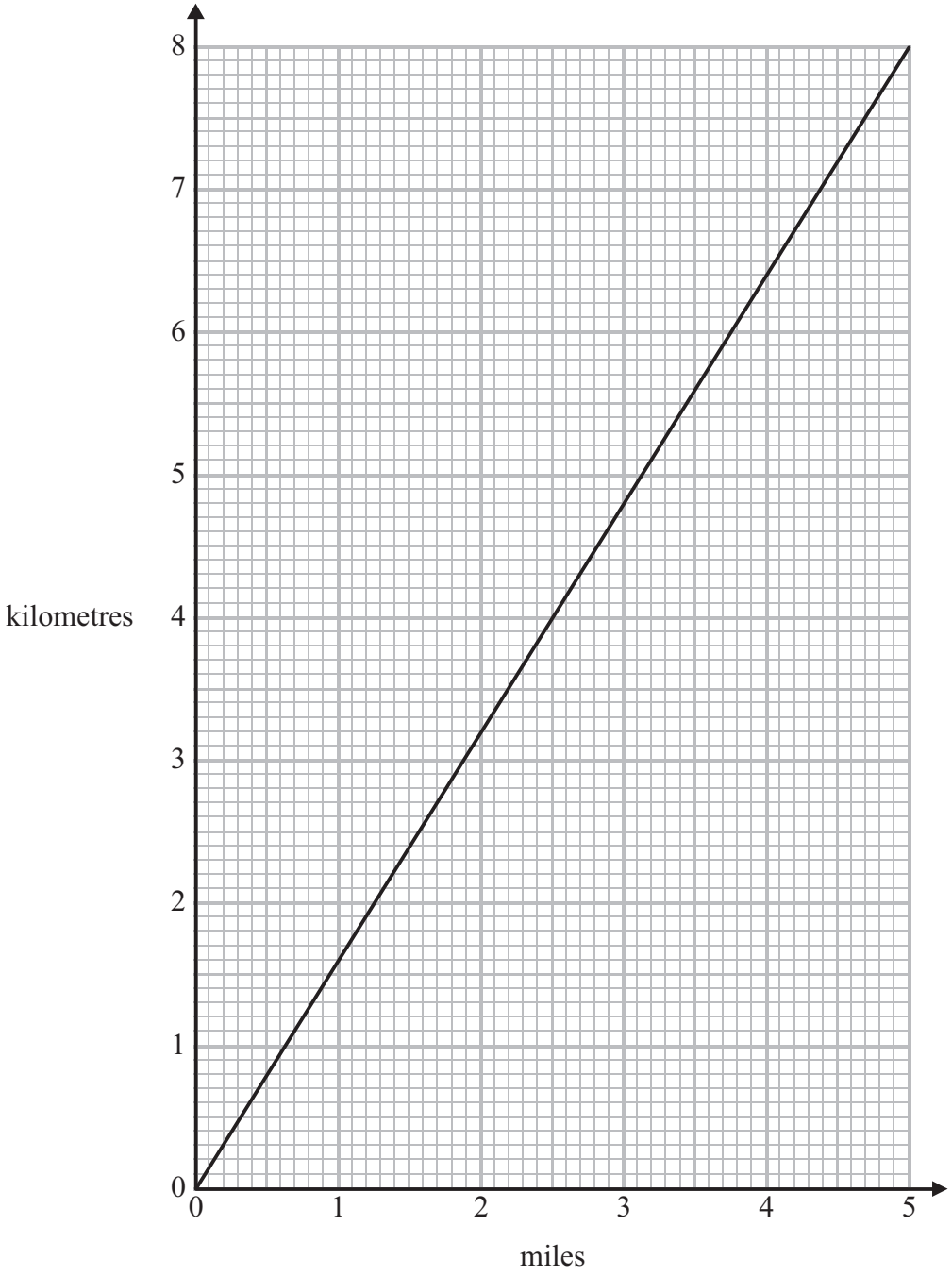
Ed uses a van to deliver parcels.
For each parcel Ed delivers it costs £1.50 for each mile.
There is **no** fixed charge.

(b) Compare the cost of having a parcel delivered by Bill with the cost of having a parcel delivered by Ed.

(3)

(Total for Question 18 is 4 marks)

12 You can use the graph to change between miles and kilometres.



(a) Change 3 miles into kilometres.

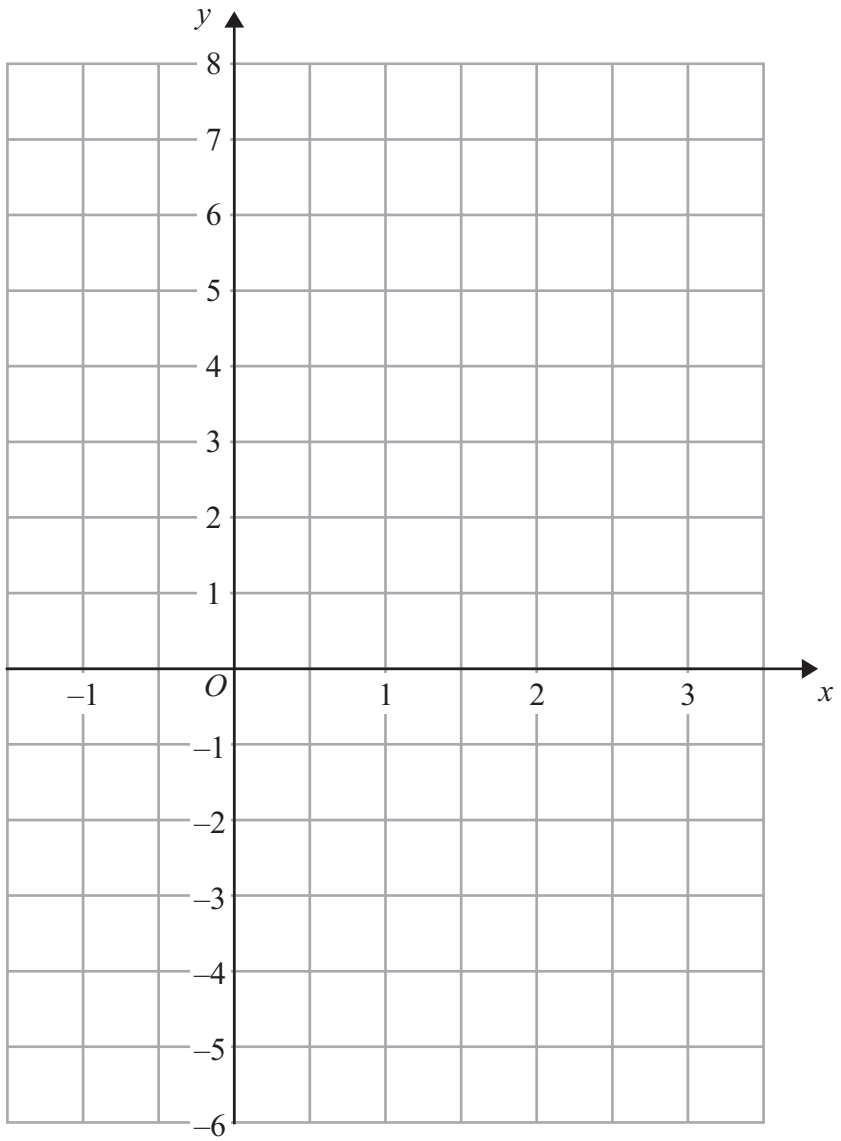
..... kilometres
(1)

(b) Change 60 kilometres into miles.

..... miles
(2)

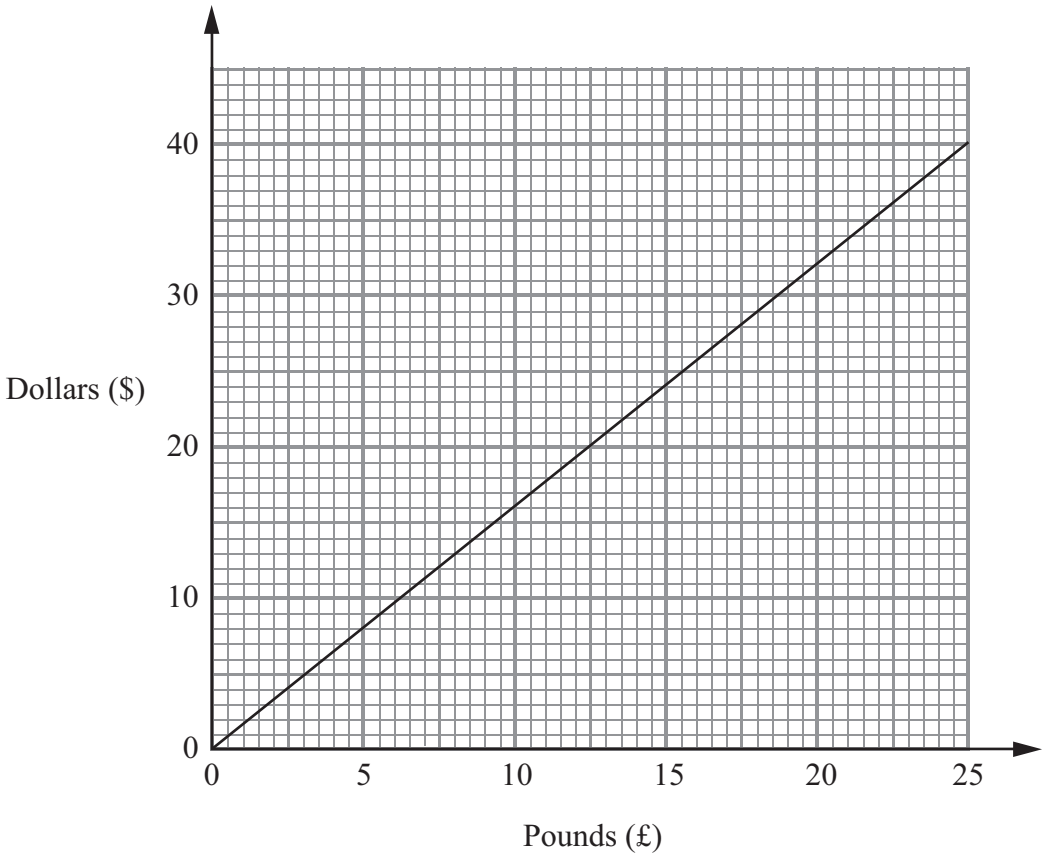
(Total for Question 12 is 3 marks)

21 On the grid, draw the graph of $y = 3x - 2$ for values of x from -1 to 3



(Total for Question 21 is 3 marks)

***6** You can use this conversion graph to change between pounds (£) and dollars ($).



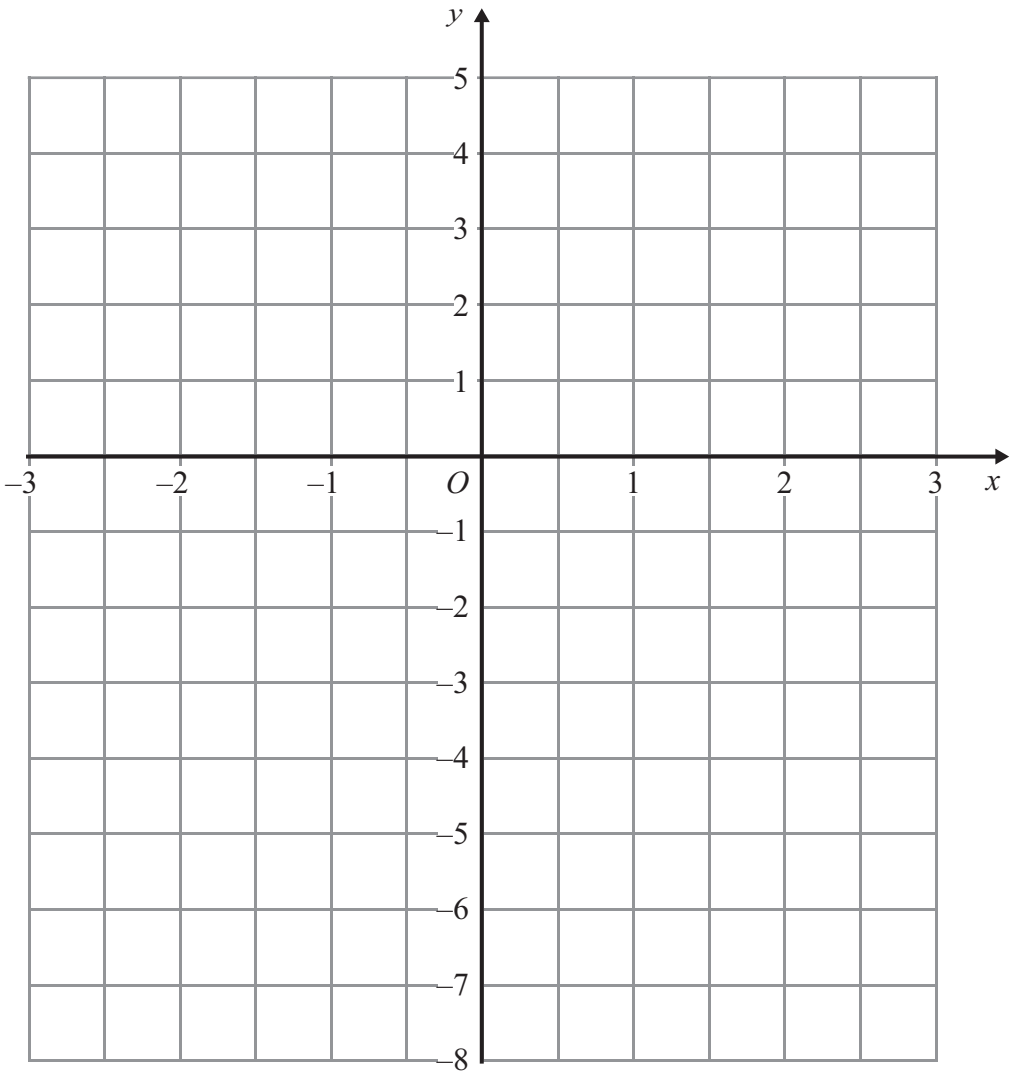
Stacey bought a watch in New York.
The watch cost $220

In London, the same type of watch costs £140

Compare the cost of the watch in New York with the cost of the watch in London.

(Total for Question 6 is 4 marks)

16 On the grid, draw the graph of $y = 2x - 3$ for values of x from –2 to 2

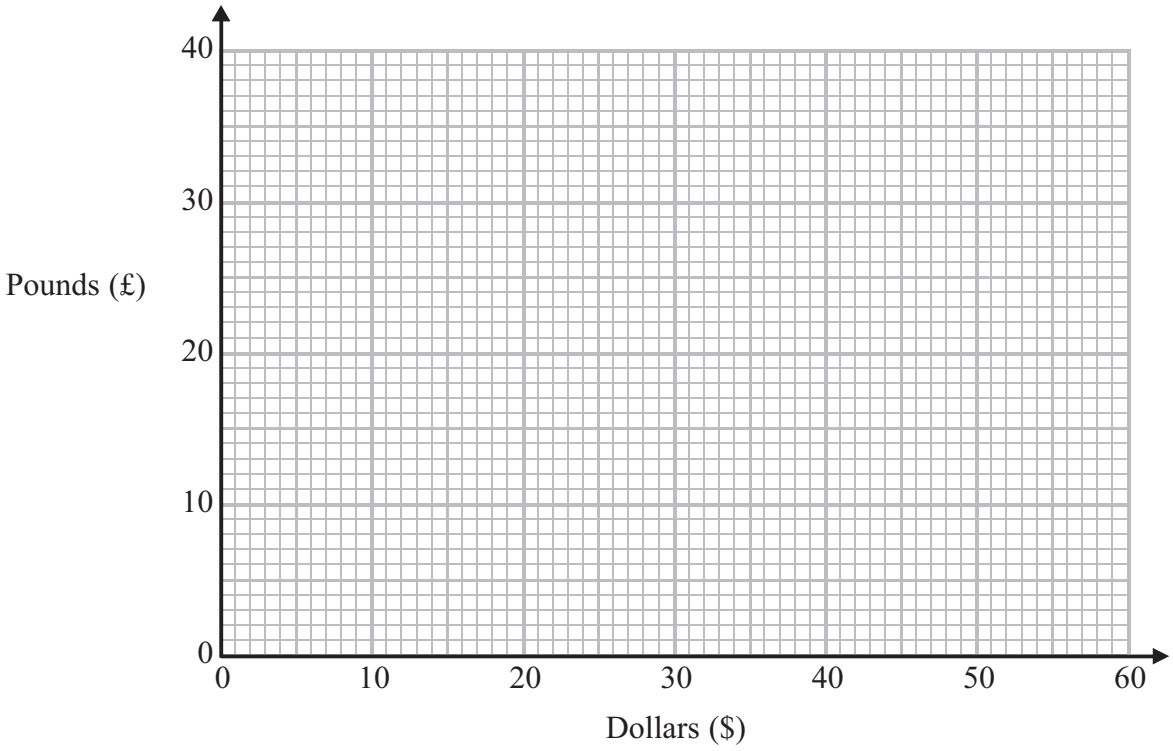


(Total for Question 16 is 3 marks)

11 The table shows how much some amounts of money in dollars ($) are when they are changed to pounds (£).

Dollars ($)	0	15	30	45	60
Pounds (£)	0	10	20	30	40

(a) On the grid, use this information to draw a line graph to change between dollars and pounds.



(2)

(b) Use your line graph to change

(i) £25 into $

$ .....

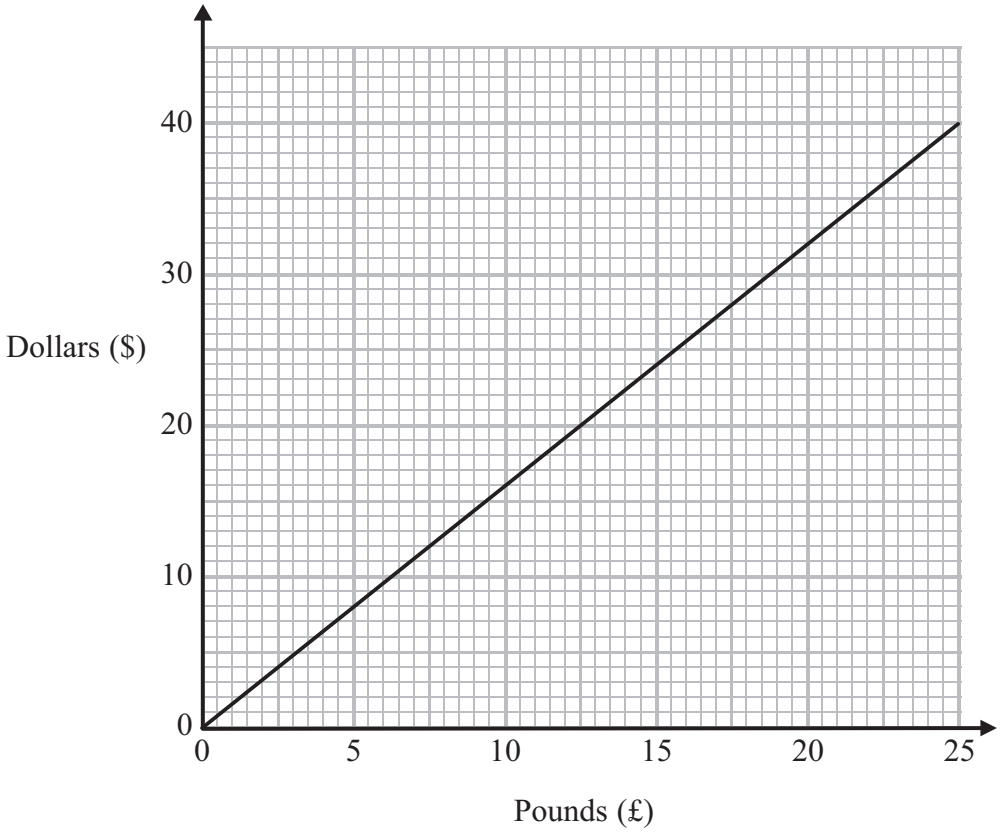
(ii) $50 into £

£ .....

(2)

(Total for Question 11 is 4 marks)

15 You can use this graph to change between pounds (£) and dollars ($).



(a) Change £20 into dollars ($).

$.....

(1)

In London, Sano headphones cost £60
In New York, Sano headphones cost $100

Sano headphones cost more in New York than in London.

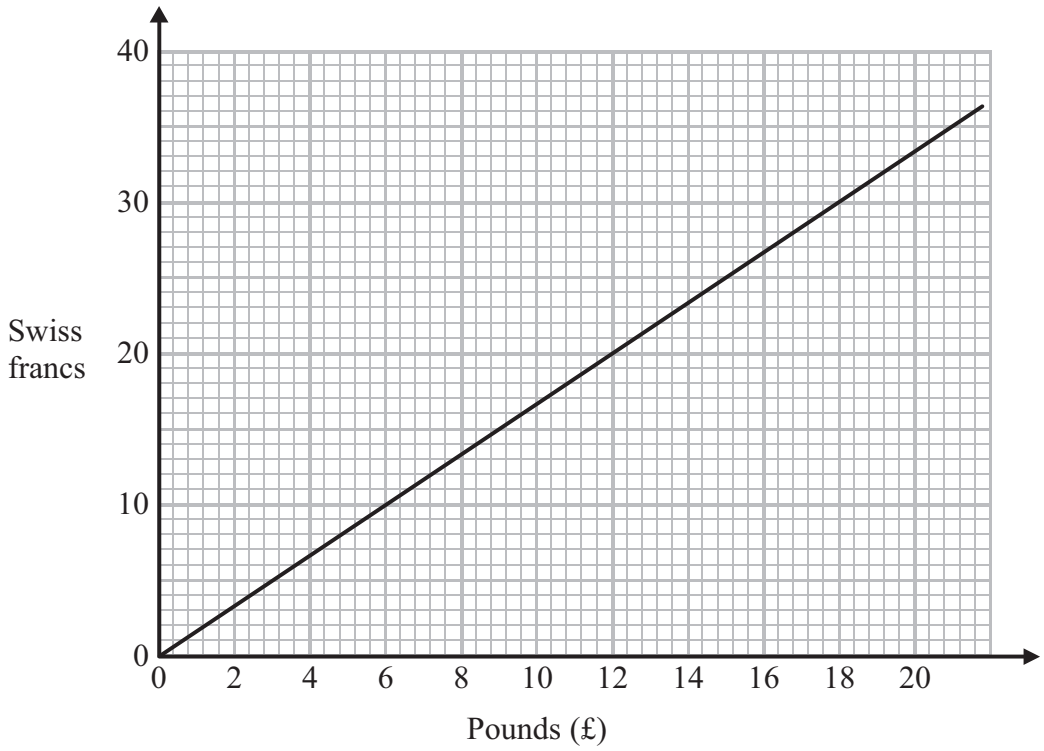
(b) How much more?

.....

(3)

(Total for Question 15 is 4 marks)

11 You can use this conversion graph to change between pounds (£) and Swiss francs.



(a) Use the graph to change £6 to Swiss francs.

..... Swiss francs
(1)

(b) Use the graph to change 25 Swiss francs to pounds (£).

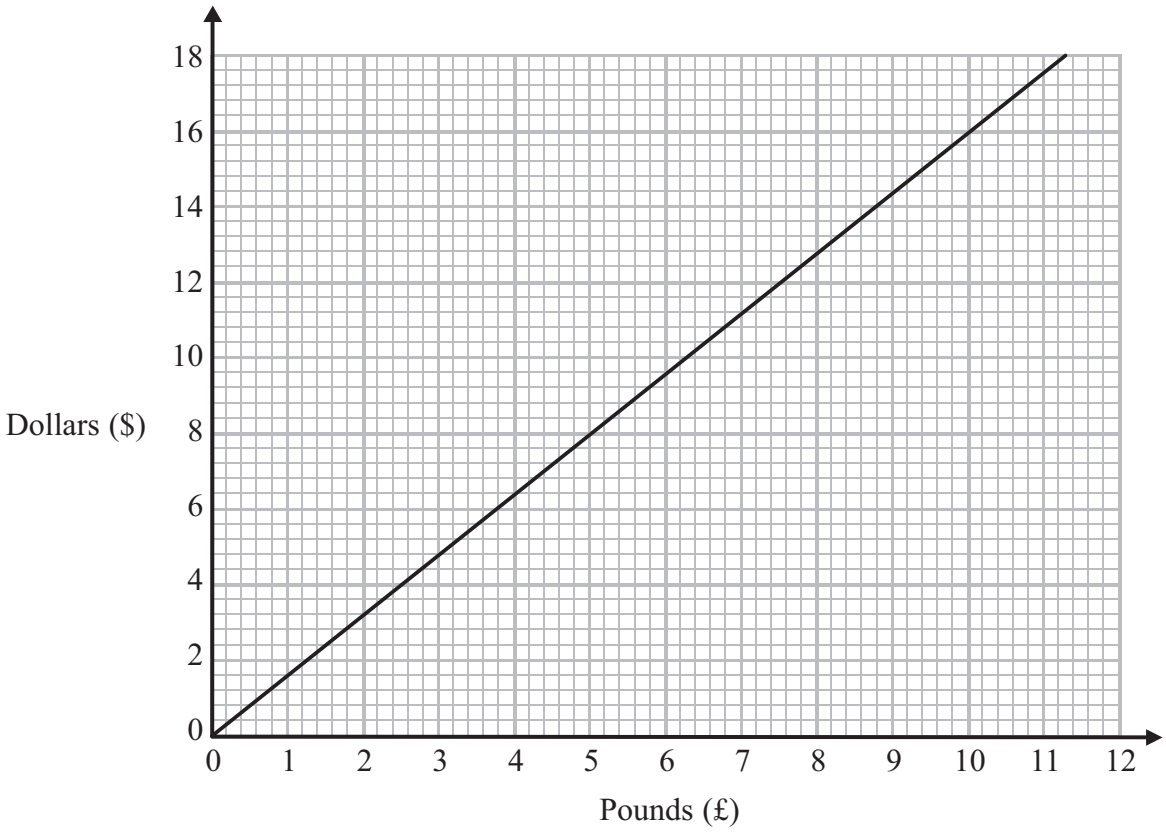
£ .....
(1)

(c) Change £64 to Swiss francs.

..... Swiss francs
(2)

(Total for Question 11 is 4 marks)

14 You can use this conversion graph to change between pounds (£) and dollars ($).



(a) Use the conversion graph to change £5 to dollars.

$ .....

(1)

Ella has $200 and £800
Her hotel bill is $600

Ella pays the bill with the $200 and some of the pounds.

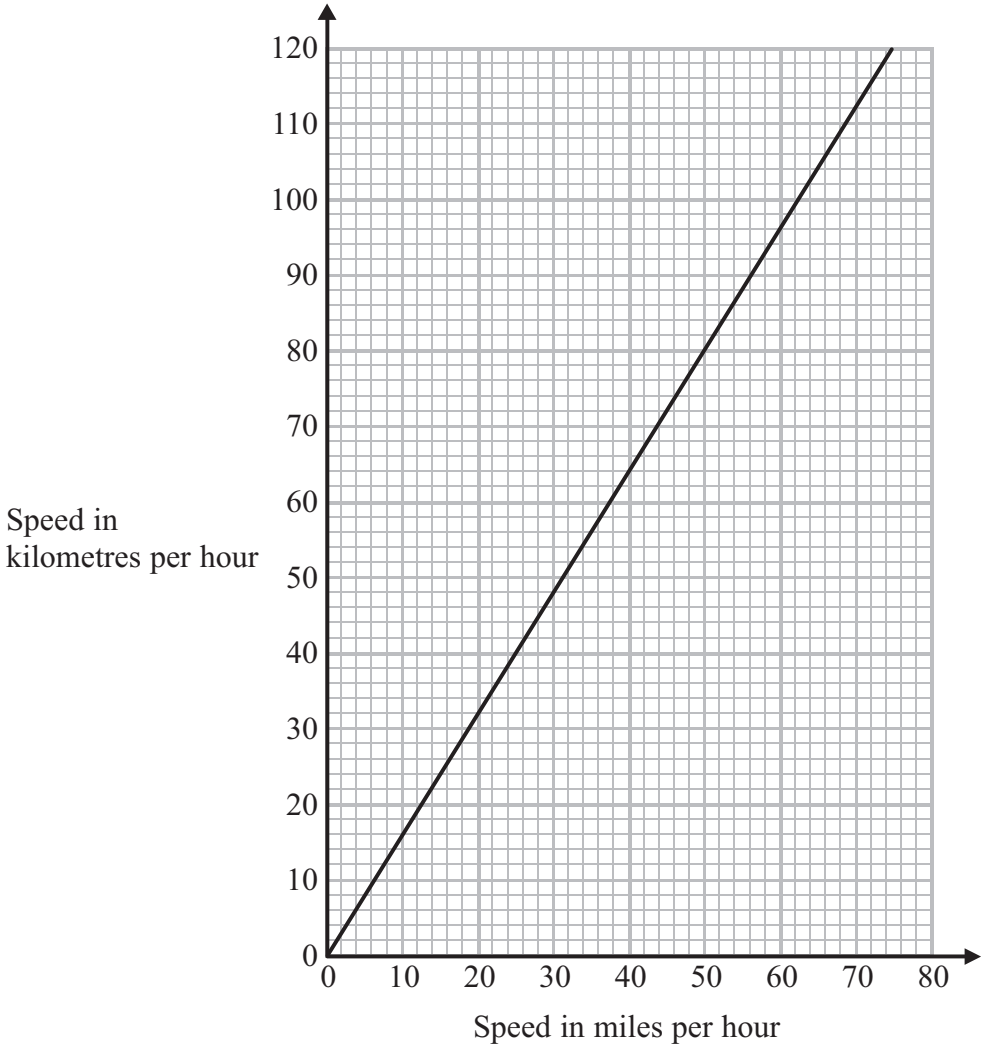
(b) Use the conversion graph to work out how many pounds she has left.

£ .....

(4)

(Total for Question 14 is 5 marks)

8 Here is a conversion graph.



You can use the graph to change between speed in miles per hour and speed in kilometres per hour.

(a) Change 30 miles per hour to kilometres per hour.

..... kilometres per hour
(1)

(b) Change 72 kilometres per hour to miles per hour.

..... miles per hour
(1)

Jack is in France.
He has to drive 180 miles to the ferry.
He has 3 hours to get to the ferry.

In France, Jack must not drive at a speed greater than 90 kilometres per hour.

*(c) Can Jack drive to the ferry in 3 hours?
You must show all your working.

(3)

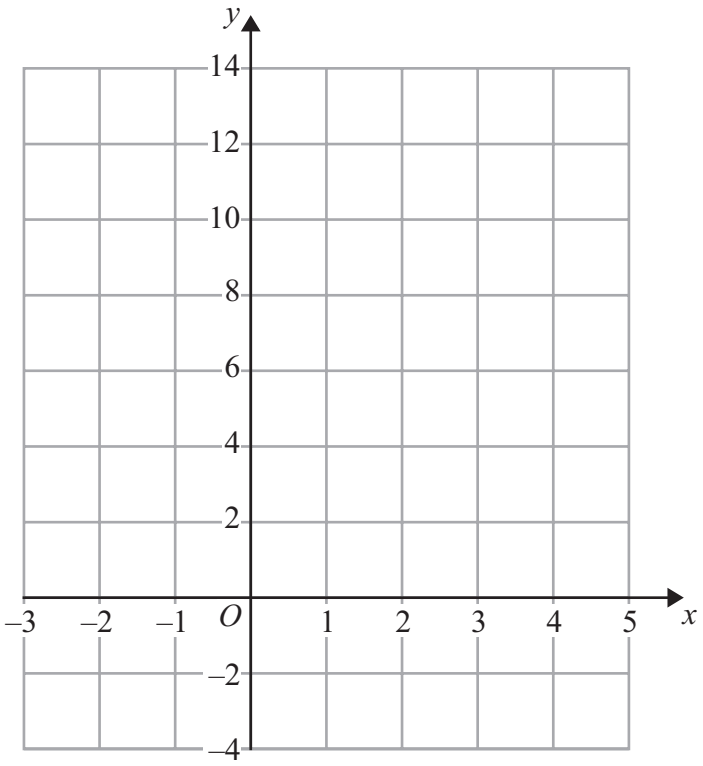
(Total for Question 8 is 5 marks)

18 (a) Complete the table of values for $y = 2x + 2$

x	−2	−1	0	1	2	3	4
y	−2				6		

(2)

(b) On the grid, draw the graph of $y = 2x + 2$



(2)

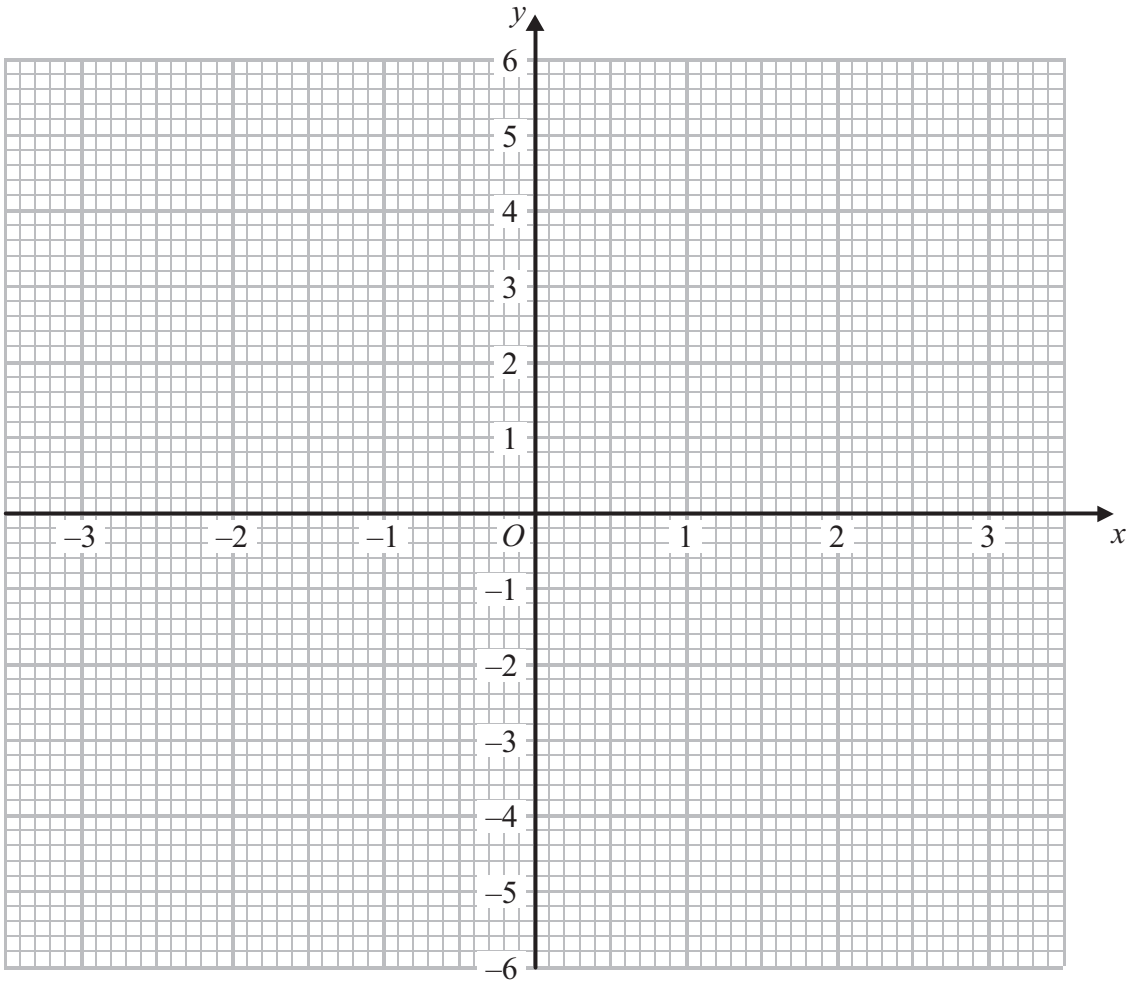
(Total for Question 18 is 4 marks)

24 (a) Complete the table of values for $y = x^2 - 4$

x	−3	−2	−1	0	1	2	3
y		0	−3			0	5

(2)

(b) On the grid, draw the graph of $y = x^2 - 4$ for $x = -3$ to $x = 3$

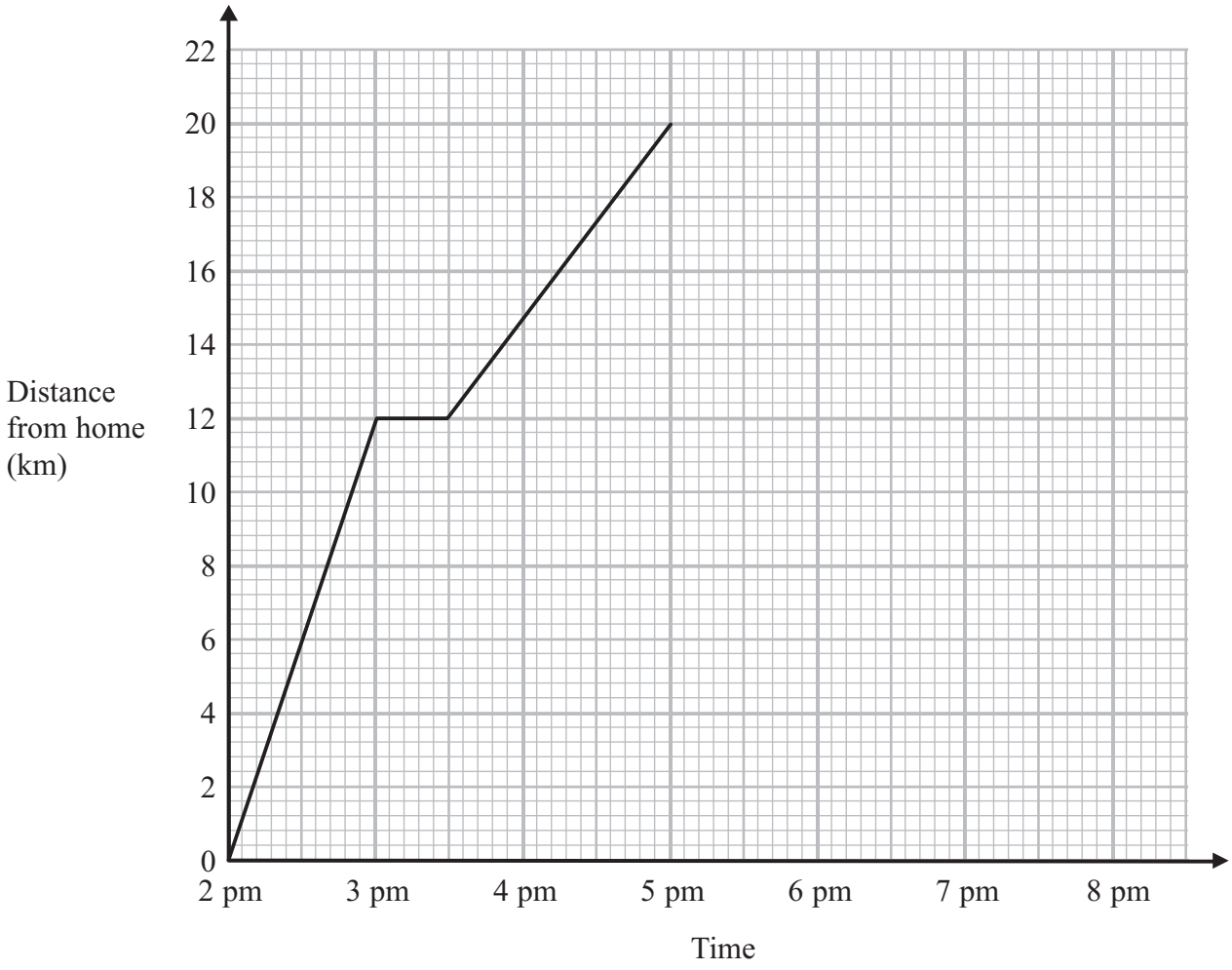


(2)

(Total for Question 24 is 4 marks)

21 Simon went for a cycle ride.
He left home at 2 pm.

The travel graph represents part of Simon's cycle ride.



At 3 pm Simon stopped for a rest.

(a) How many minutes did he rest?

..... minutes
(1)

(b) How far was Simon from home at 5 pm?

..... km
(1)

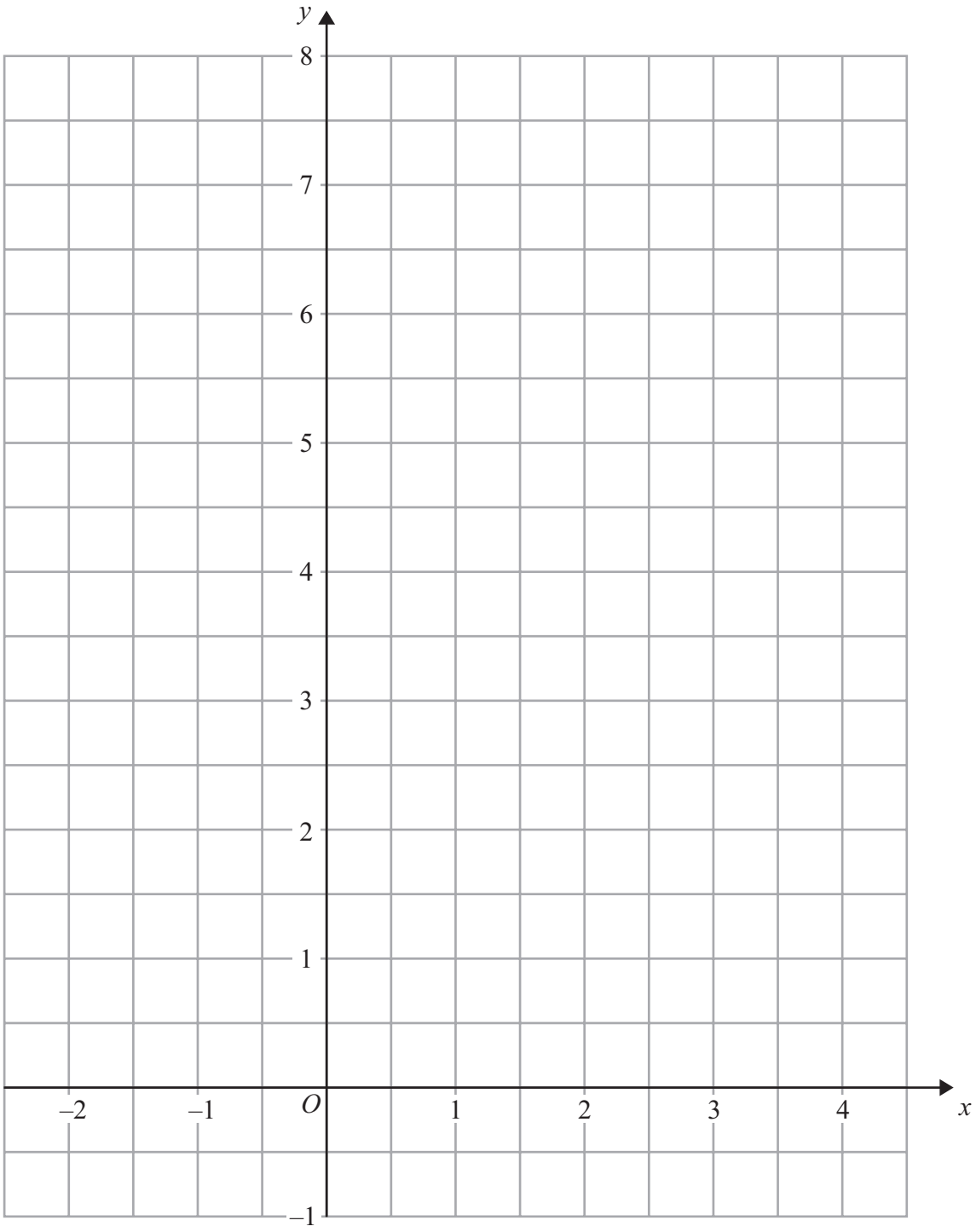
At 5 pm Simon stopped for 30 minutes.
Then he cycled home at a steady speed.
It took him 1 hour 30 minutes to get home.

(c) Complete the travel graph.

(2)

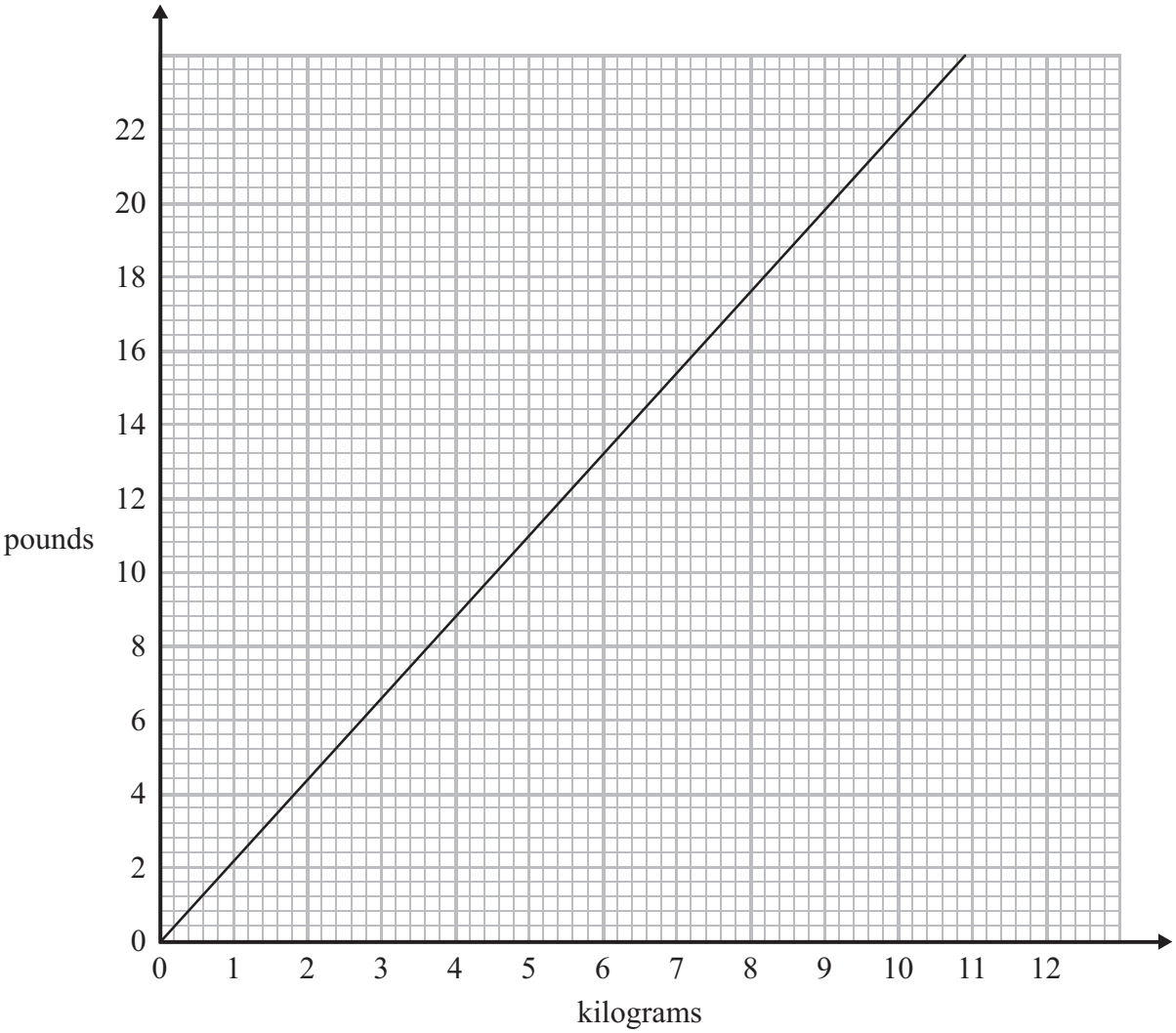
(Total for Question 21 is 4 marks)

29 On the grid, draw the graph of $y = \frac{1}{2}x + 5$ for values of x from –2 to 4



(Total for Question 29 is 3 marks)

13 You can use this conversion graph to change between kilograms and pounds.



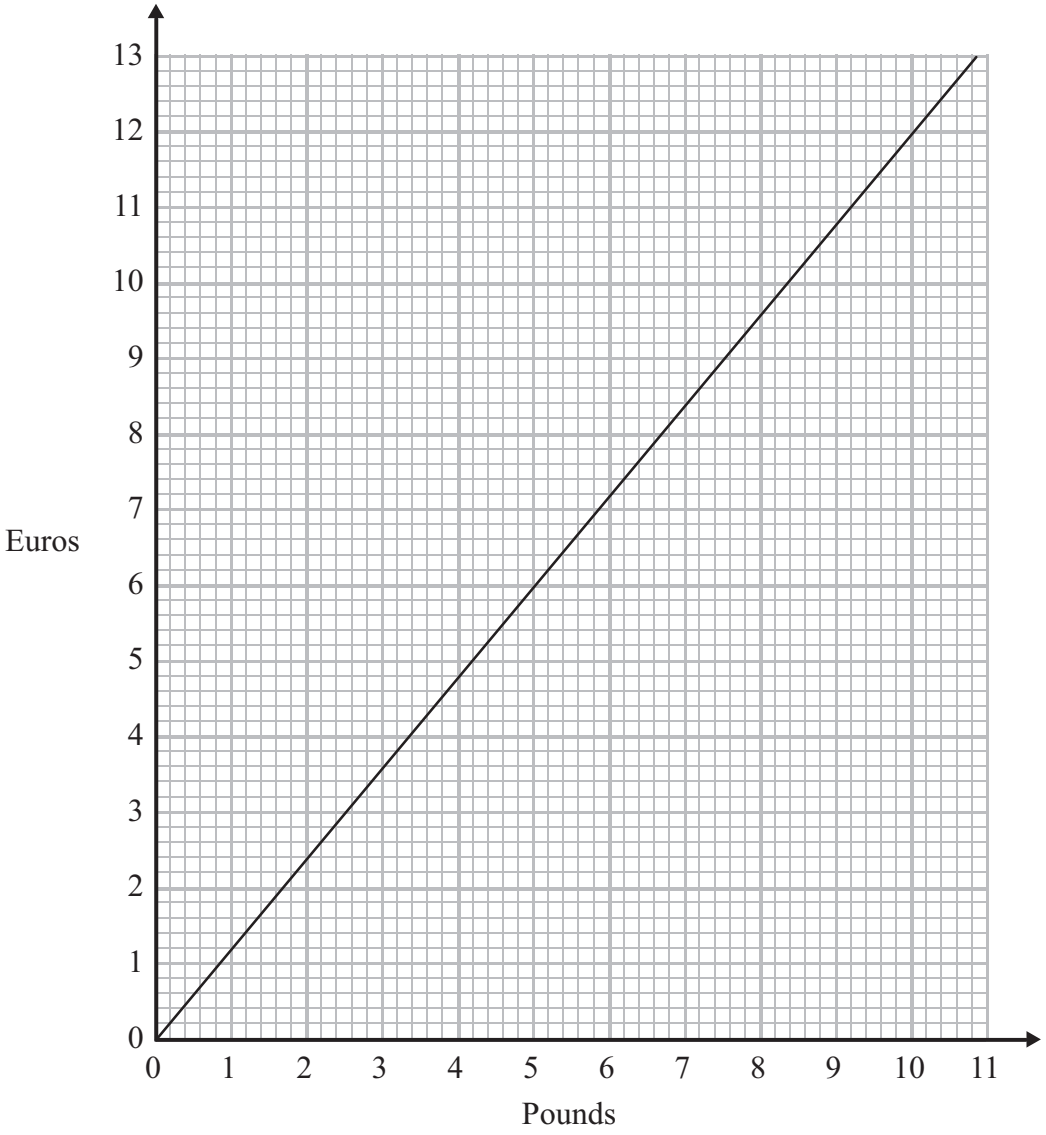
Daniel's weight is 9 stone 6 pounds.
1 stone = 14 pounds.

What is Daniel's weight in kilograms?

..... kilograms

(Total for Question 13 is 3 marks)

12 You can use this graph to change between pounds and euros.



(a) Change 6 euros into pounds.

..... pounds

(1)

Amy changes 50 pounds into euros.

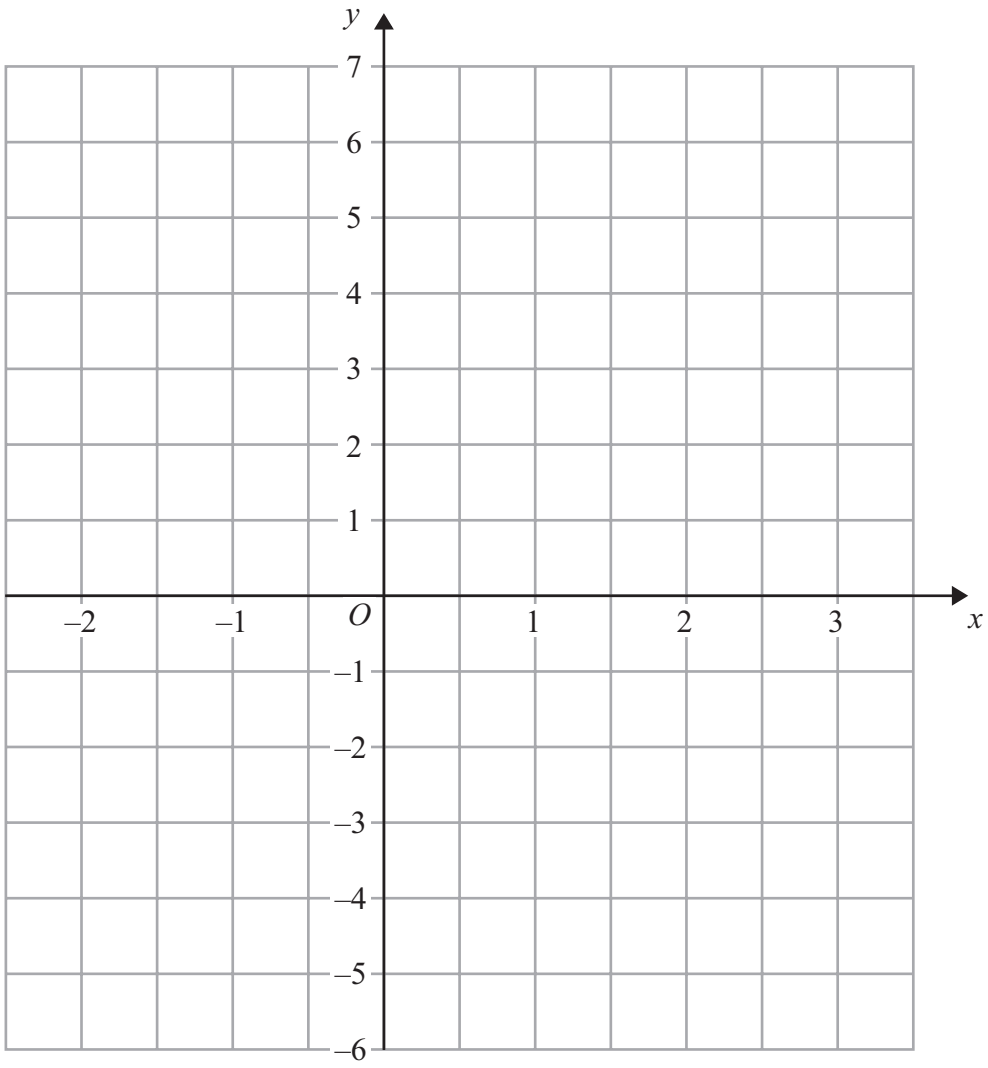
(b) How many euros should she get?

..... euros

(2)

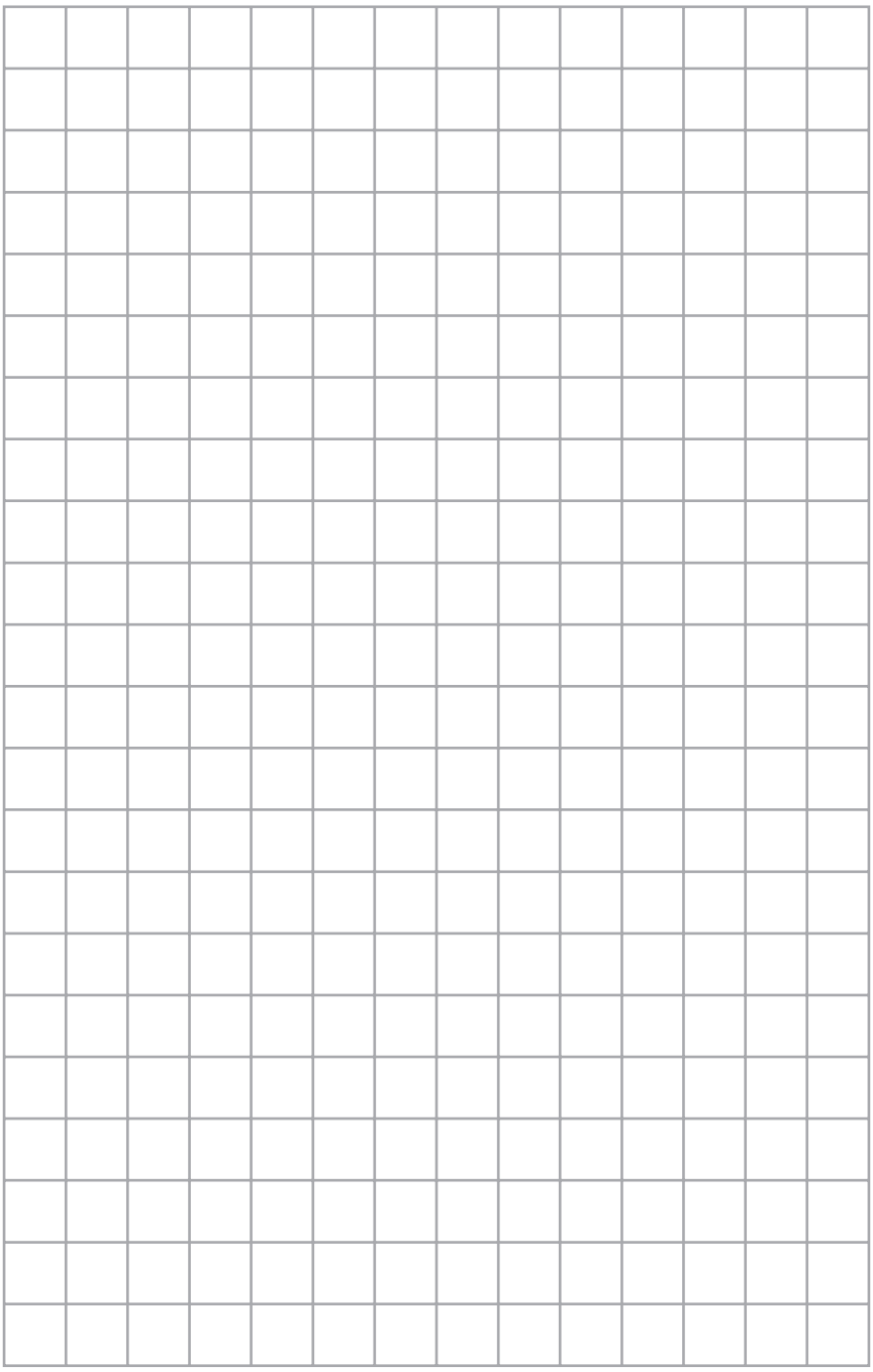
(Total for Question 12 is 3 marks)

18 On the grid, draw the graph of $y = 2x - 1$ for values of x from –2 to 3



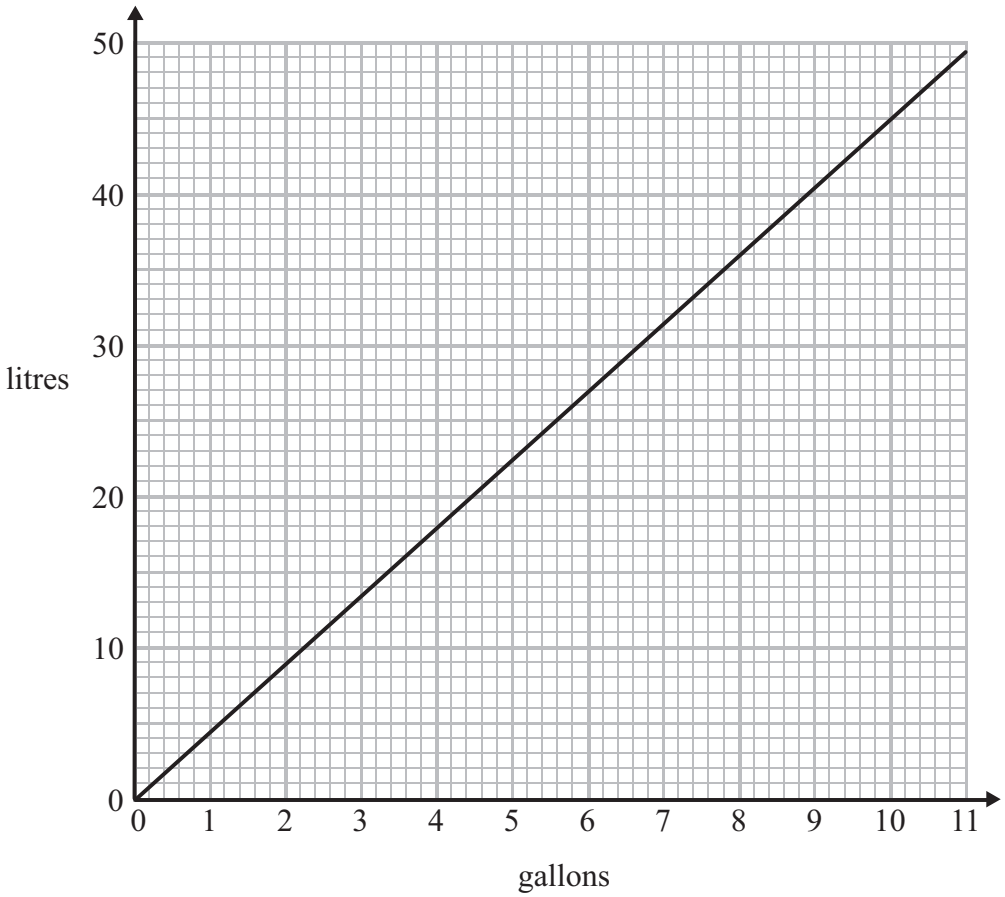
(Total for Question 18 is 3 marks)

26 On the grid, draw the graph of $y = 3x + 2$ for values of x from -2 to 2



(Total for Question 26 is 4 marks)

18 You can use this graph to change between gallons and litres.



There are 80 litres of petrol in the petrol tank of car A.
There are 16 gallons of petrol in the petrol tank of car B.

Which car has the most petrol in its petrol tank?
You must show all your working.

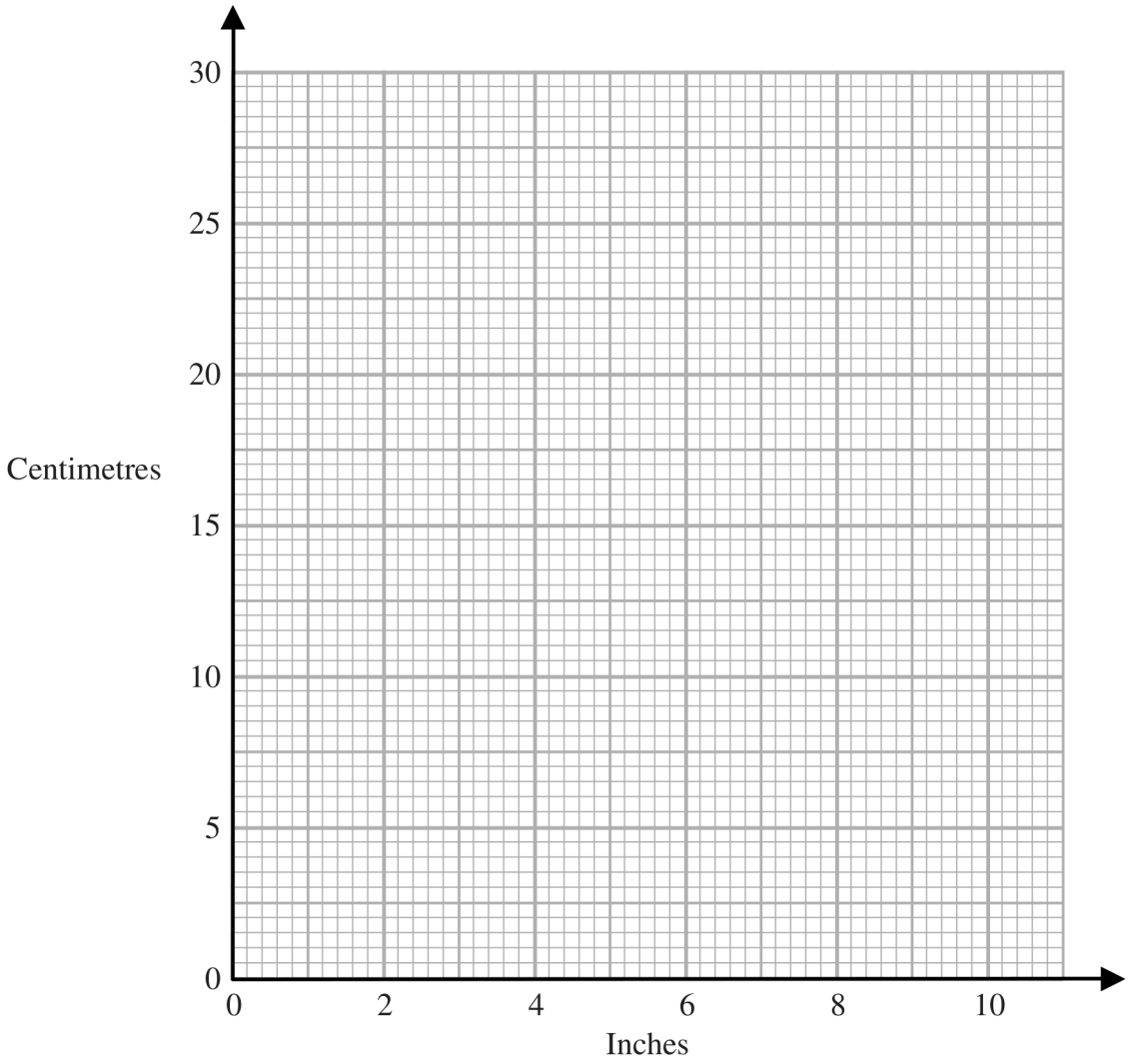
.....

(Total for Question 18 is 3 marks)

9 The table shows some lengths in inches changed into lengths in centimetres.

Length in inches	0	2	6	10
Length in centimetres	0	5	15	25

(a) On the grid, use this information to draw a line graph that can be used to change between inches and centimetres.



(2)

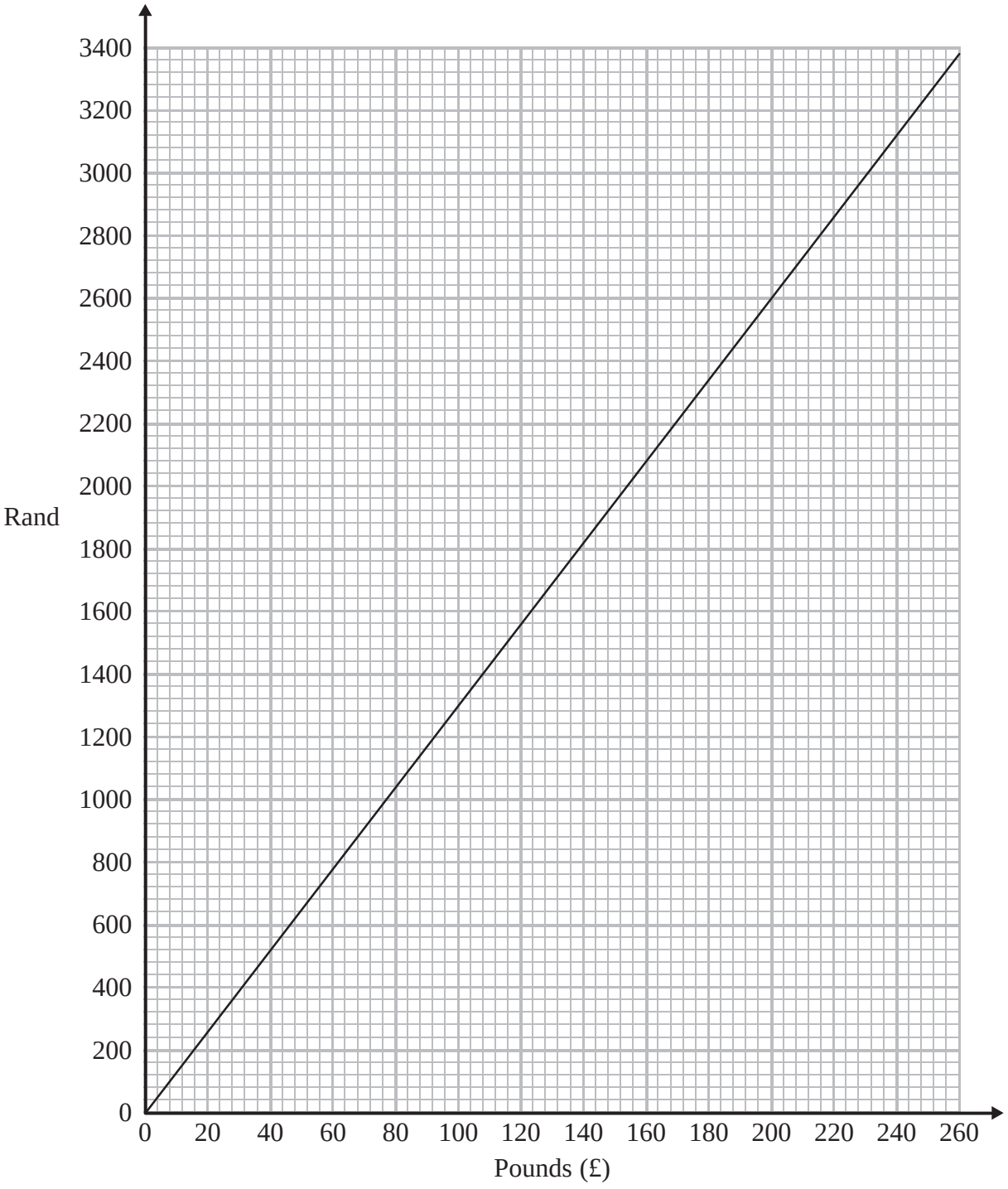
Kate's height is 62 inches.
Helen's height is 150 centimetres.

*(b) Who is the tallest?

(3)

(Total for Question 9 is 5 marks)

18 Here is a conversion graph to change between UK pounds (£) and South African rand.



Jo changes £200 into rand.

(a) How many rand does she get?

..... rand

(1)

Simon has £100 and 3700 rand.
He goes to a shop where he can spend both pounds and rand.

He wants to buy

a computer costing £360

or

a watch costing £400

or

a camera costing £375

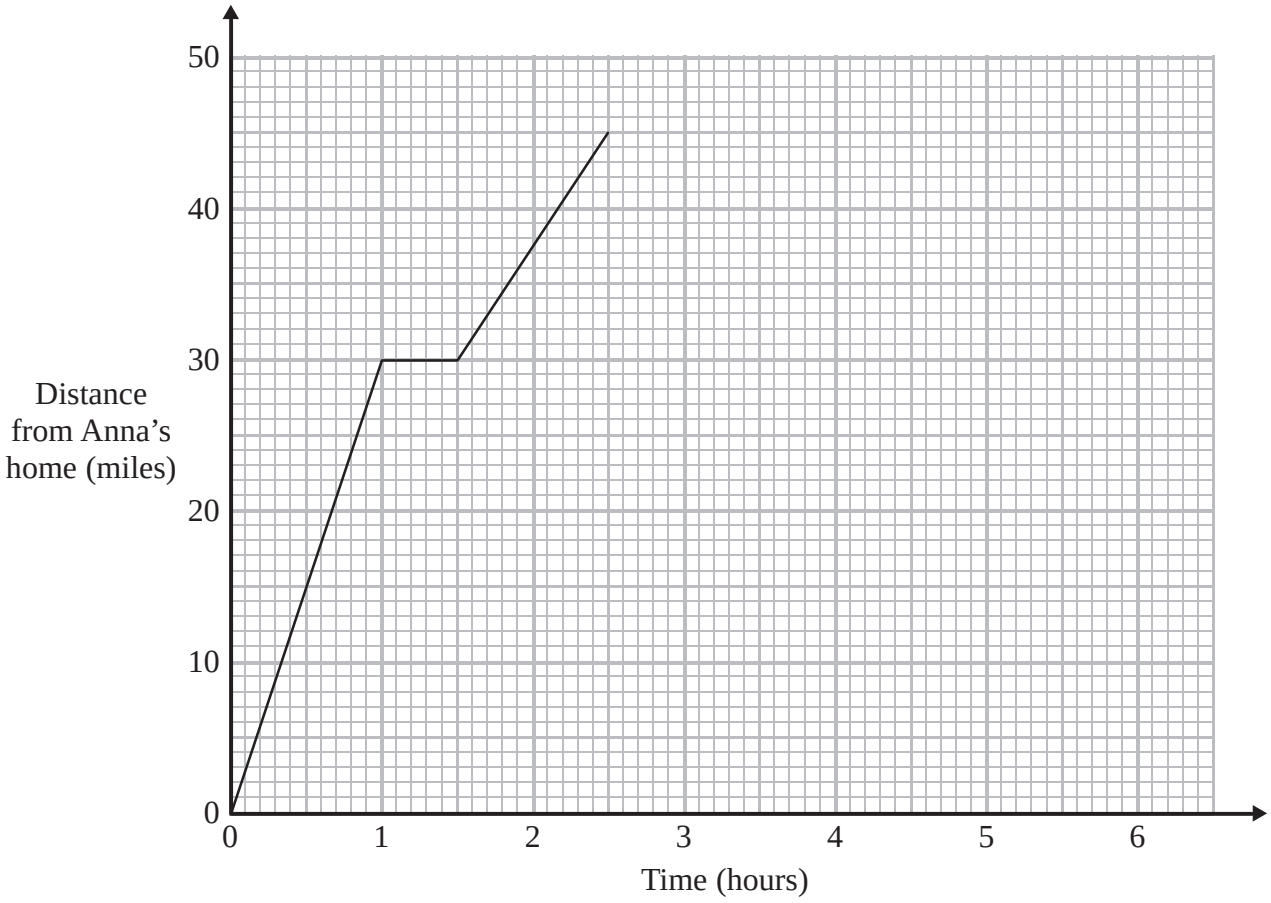
*(b) Which of these items can Simon afford to buy?
You must show clearly how you get your answer.

(3)

(Total for Question 18 is 4 marks)

22 Anna drives 45 miles from her home to a meeting.

Here is the travel graph for Anna's journey to the meeting.

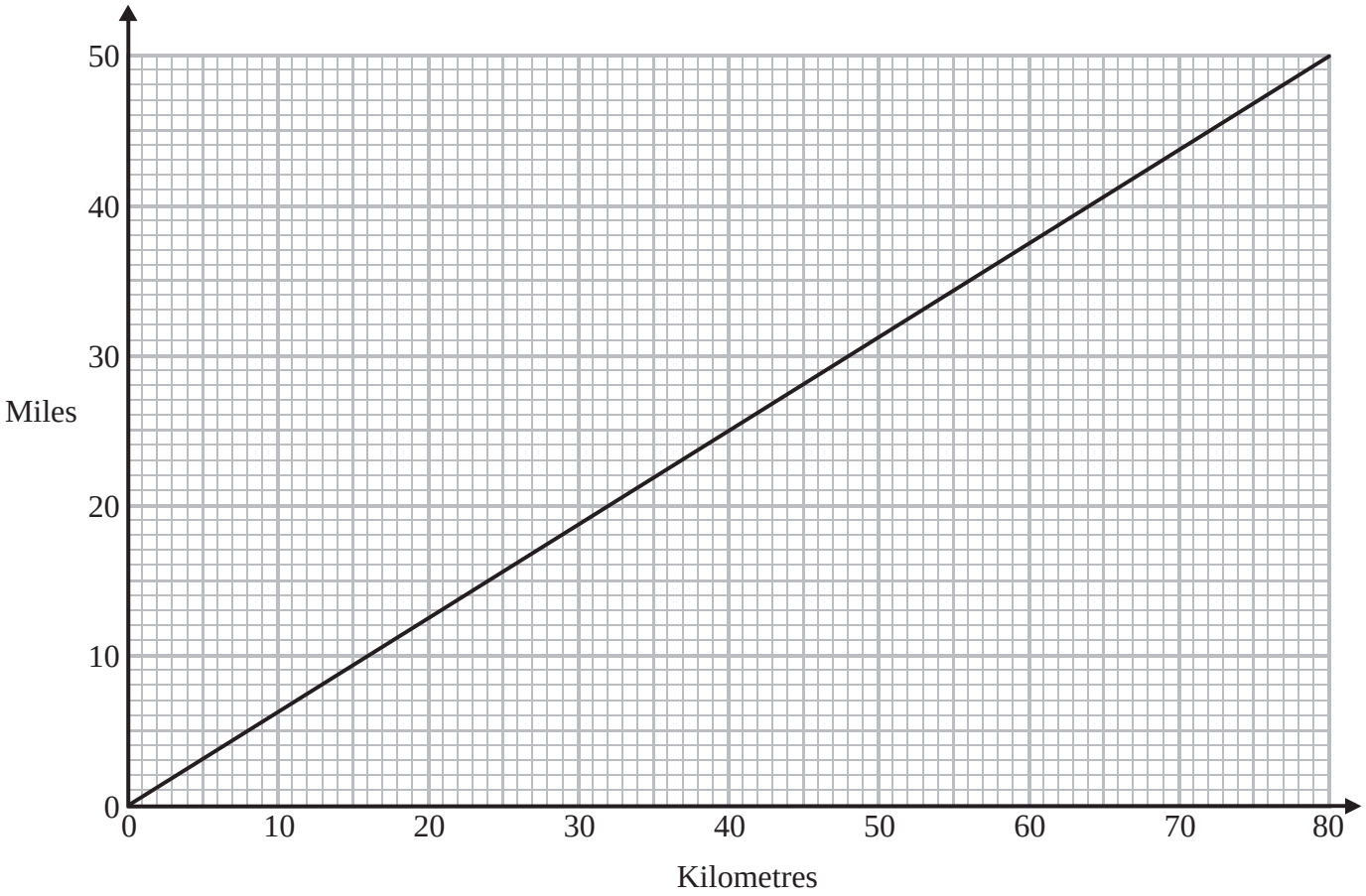


Anna's meeting lasts for 1 hour.
She then drives home at a steady speed of 30 miles per hour with no stops.

Complete the travel graph to show this information.

(Total for Question 22 is 2 marks)

9 You can use this conversion graph to change between miles and kilometres.



(a) Change 40 km into miles.

..... miles

(1)

(b) Change 35 miles into km.

..... km

(1)

Mary has to drive from Paris to Calais, and then from Dover to Sheffield.
The total distance she has to drive is 350 miles.

Mary has already driven 240 km from Paris to the ferry at Calais.
She goes on a ferry to Dover.
She now has to drive from Dover to Sheffield.

Mary has enough petrol to drive 180 miles.

*(c) Will Mary have to stop for petrol on the way to Sheffield?

(4)

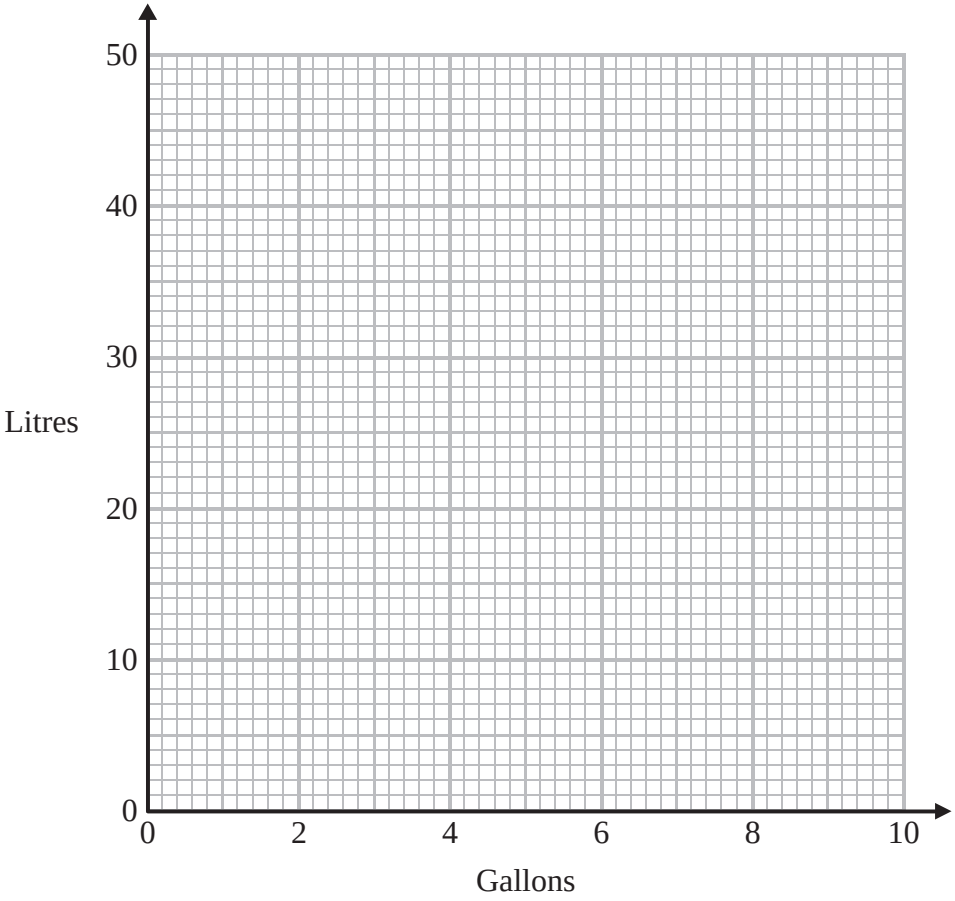
(Total for Question 9 is 6 marks)

10 Josh changed some volumes measured in gallons to litres.

The table shows his results.

gallons	0	2	4	6	8
litres	0	9	18	27	36

(a) On the grid, use this information to draw a line graph that can be used to change between gallons and litres.



(2)

(b) Use your line graph to change 5 gallons to litres.

..... litres

(1)

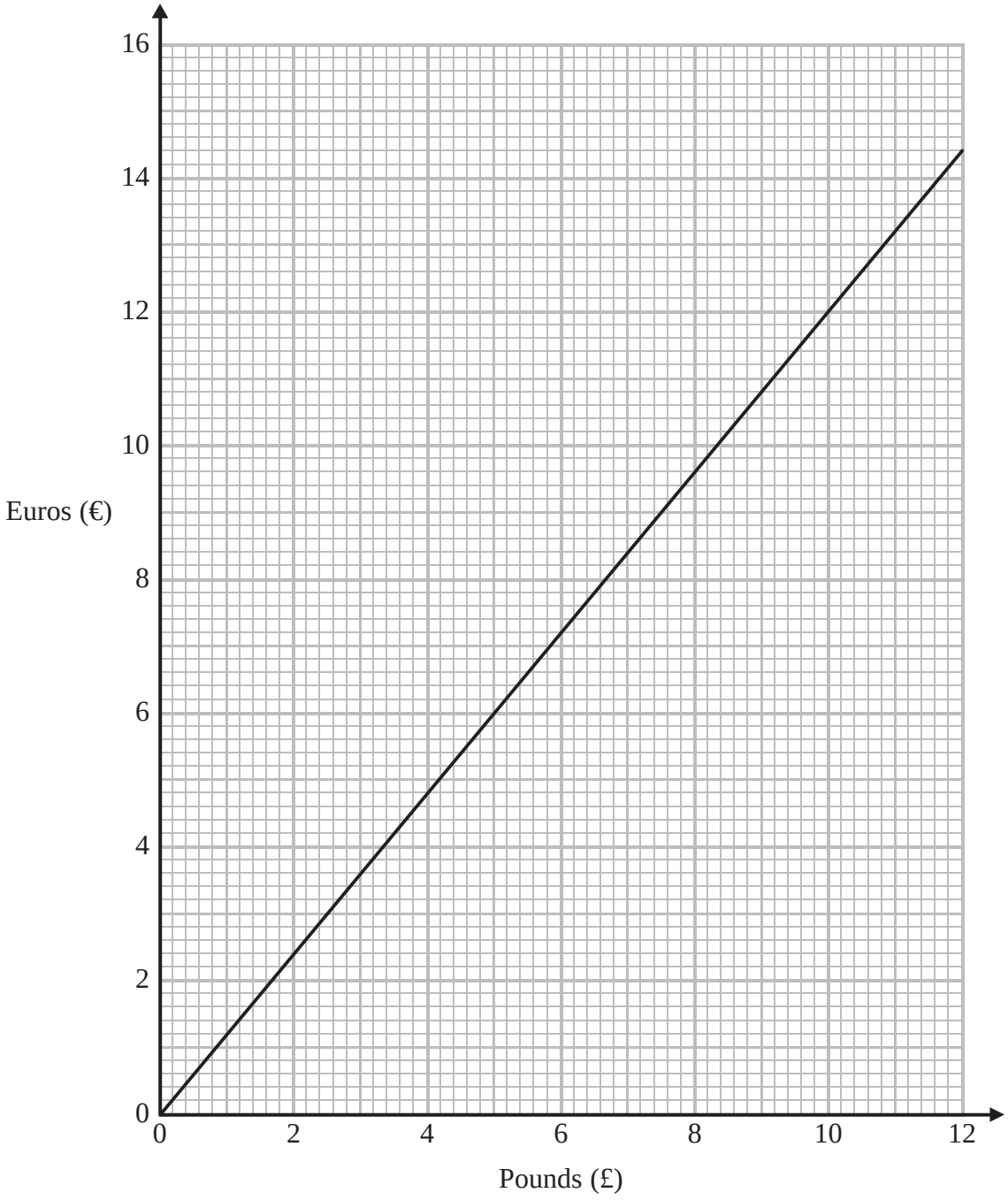
(c) Use your line graph to change 33 litres to gallons.

..... gallons

(1)

(Total for Question 10 is 4 marks)

***10** You can use this conversion graph to change between Pounds (£) and Euros (€).

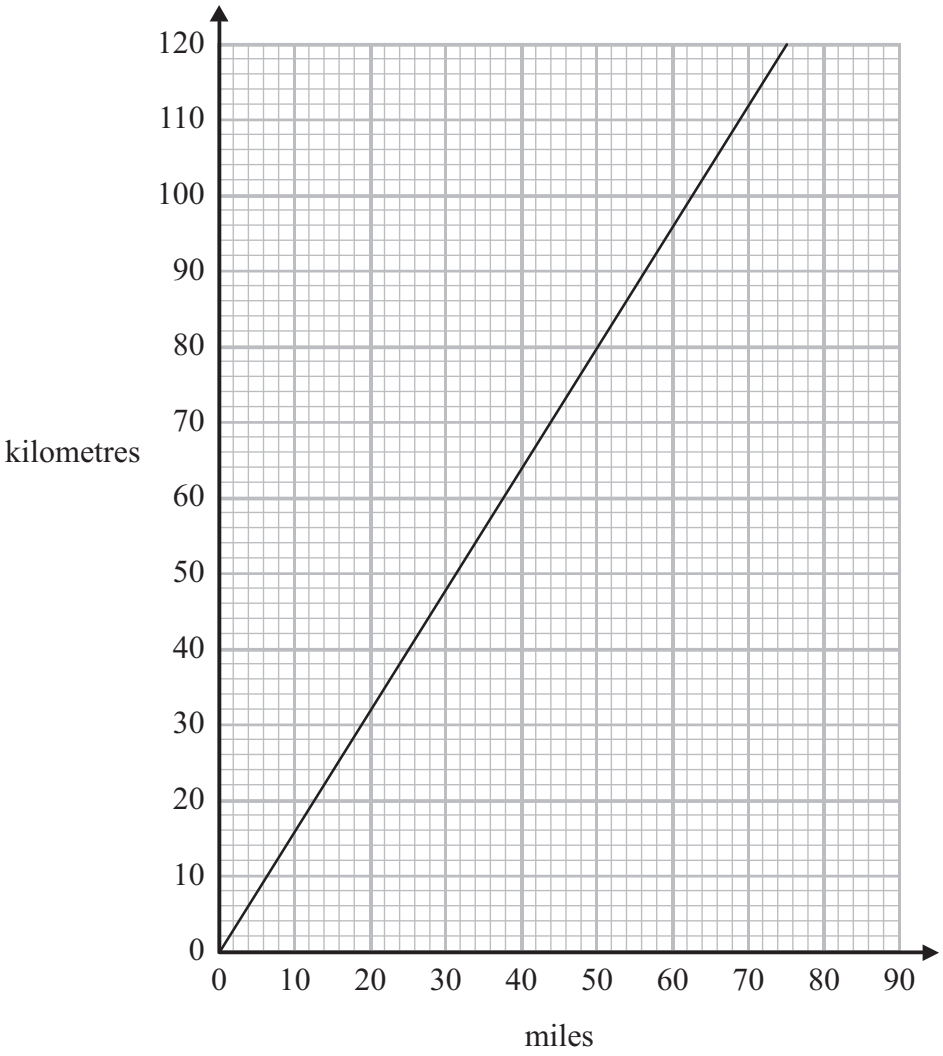


A ticket for a concert in London costs £60
A ticket for a concert in Dublin costs €70

Compare the cost of the ticket for the concert in London with the cost of the ticket for the concert in Dublin.

(Total for Question 10 is 4 marks)

***13** You can use this graph to change between miles and kilometres.

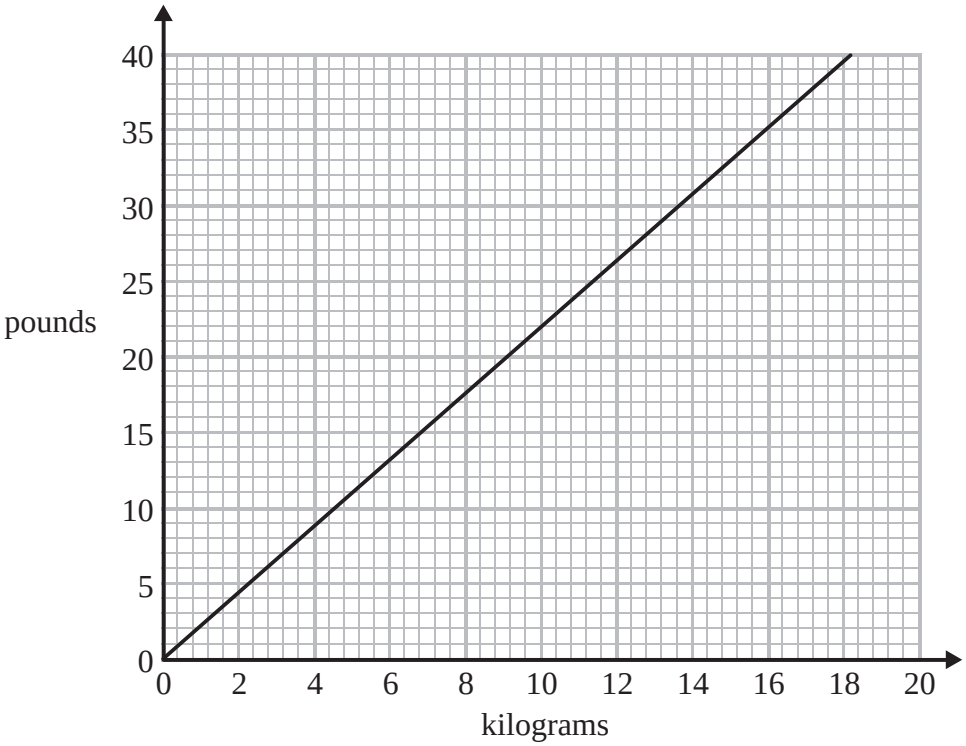


The distance from Paris to London is 280 miles.
The distance from Paris to Amsterdam is 500 kilometres.

Is Paris further from London or further from Amsterdam?
You must show how you get your answer.

(Total for Question 13 is 3 marks)

10 You can use this graph to change between pounds and kilograms.



(a) Change 13 pounds to kilograms.

..... kilograms
(1)

A trolley can carry a maximum weight of 200 pounds.

Jack has 4 bags of potatoes.
Each bag of potatoes weighs 25 kilograms.

*(b) Can the trolley carry the 4 bags of potatoes at the same time?
You must show your working.

(3)

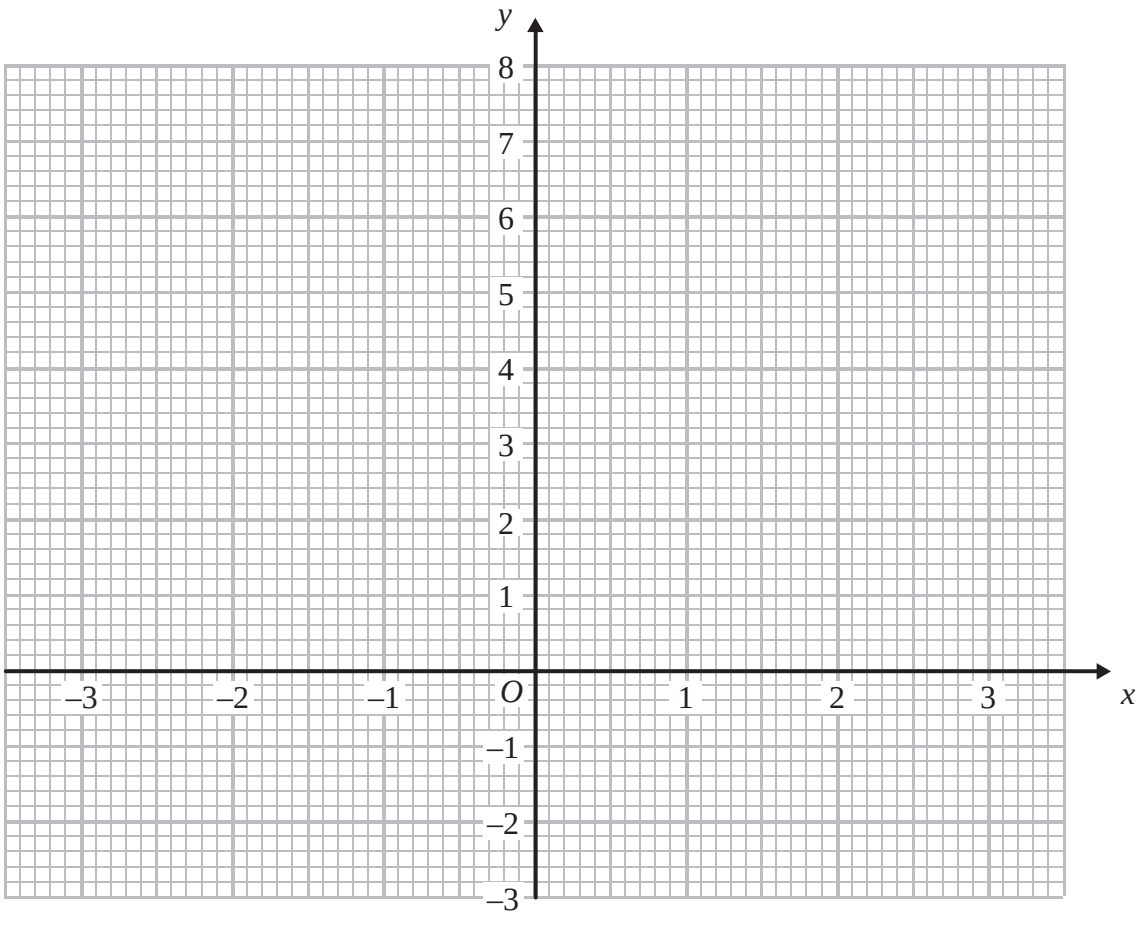
(Total for Question 10 is 4 marks)

20 (a) Complete the table of values for $y = x^2 - 2$

x	–3	–2	–1	0	1	2	3
y		2	–1			2	7

(2)

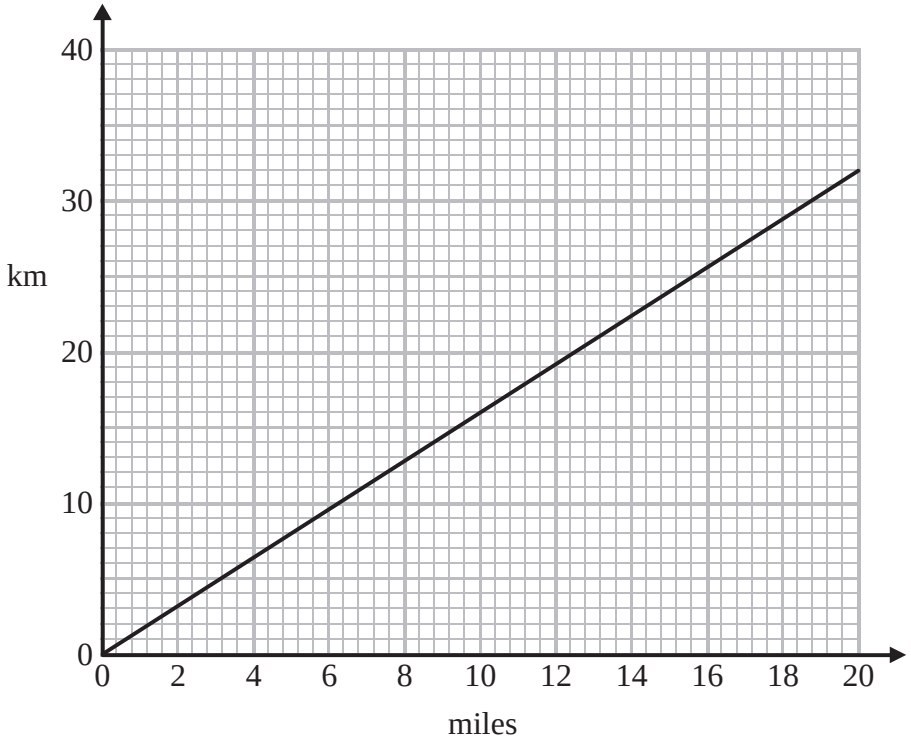
(b) On the grid, draw the graph of $y = x^2 - 2$ for values of x from –3 to 3



(2)

(Total for Question 20 is 4 marks)

14 You can use this graph to change between km and miles.



(a) Change 18 miles to km.

..... km
(1)

(b) Change 13 km to miles.

..... miles
(1)

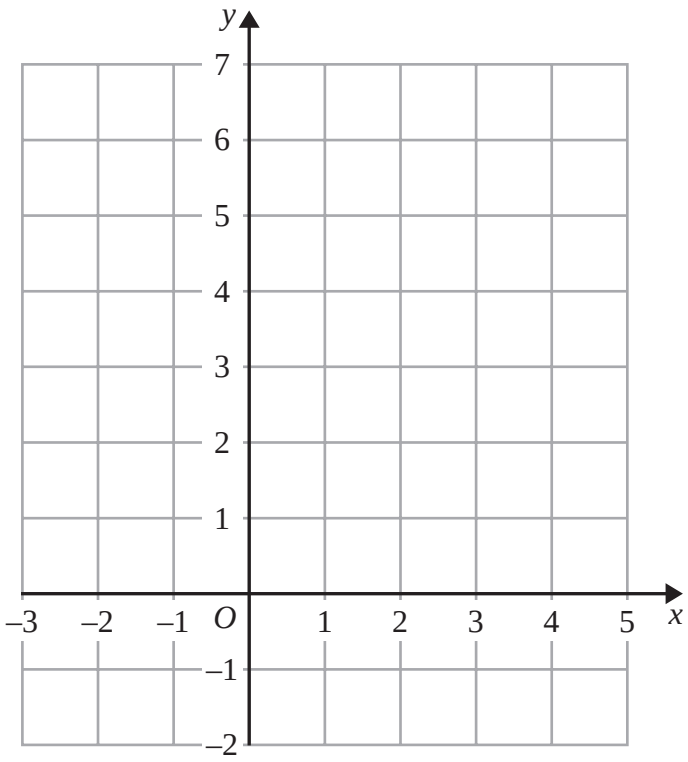
Chris drives 250 km.
He then drives 100 miles.

(c) Work out, in miles, the total distance Chris drives.

..... miles
(3)

(Total for Question 14 is 5 marks)

21 On the grid, draw the graph of $y = \frac{1}{2}x + 3$ for values of x from –2 to 4



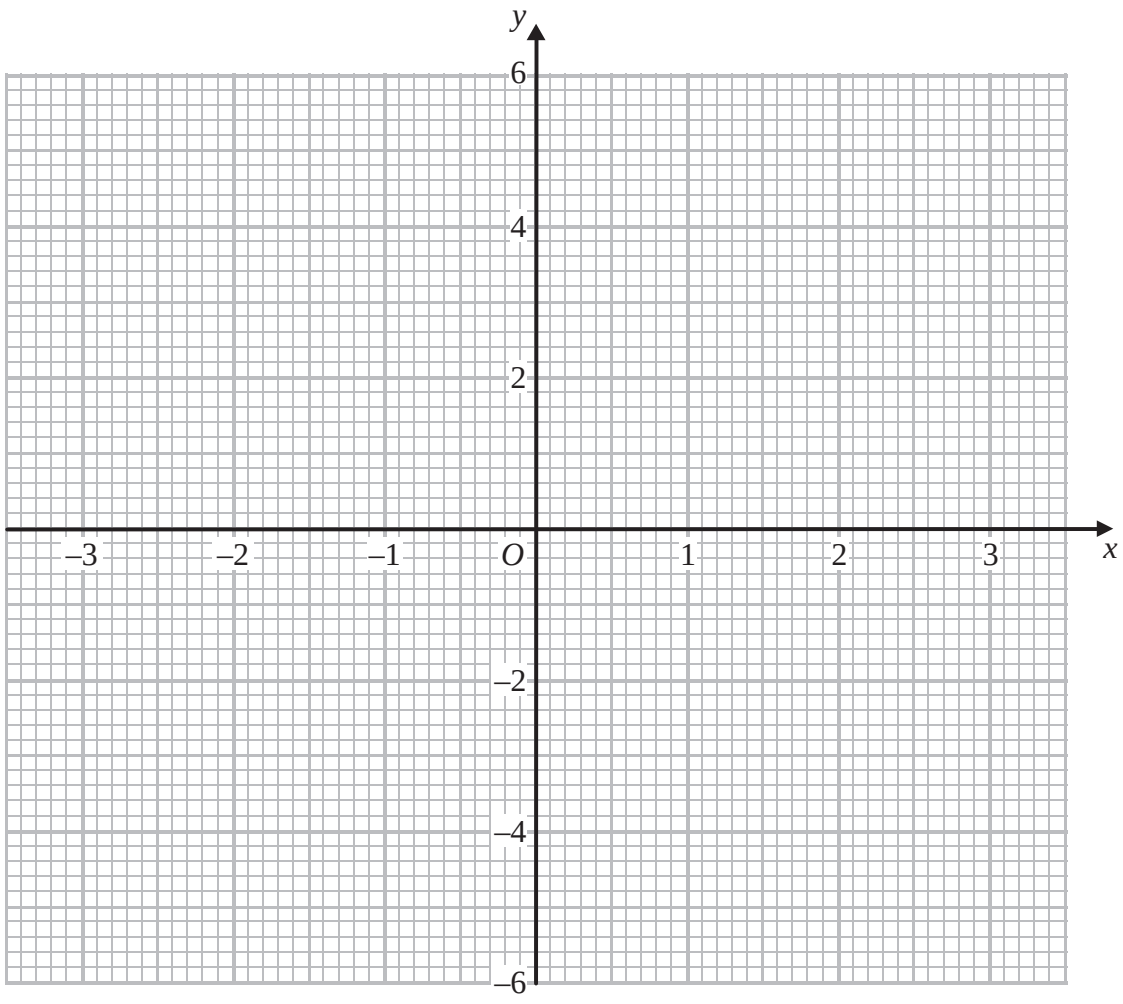
(Total for Question 21 is 3 marks)

24 (a) Complete the table of values for $y = 4 - x^2$

x	−3	−2	−1	0	1	2	3
y	−5		3			0	

(2)

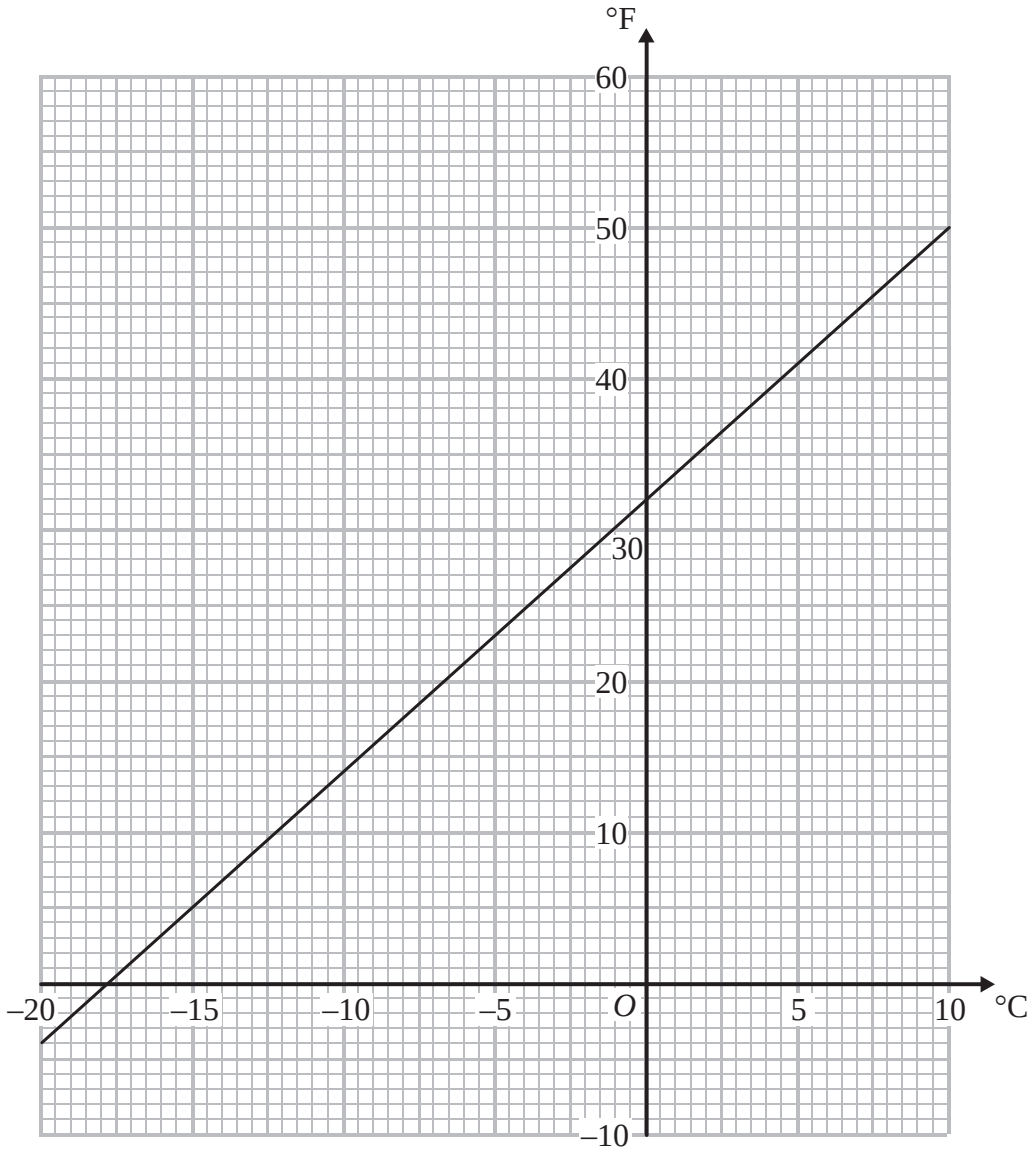
(b) On the grid, draw the graph of $y = 4 - x^2$ for values of x from –3 to 3



(2)

(Total for Question 24 is 4 marks)

14 You can use this conversion graph to change between temperatures in degrees Celsius (°C) and temperatures in degrees Fahrenheit (°F).



The temperature inside a refrigerator needs to be 40 °F.

(a) Use the conversion graph to change a temperature of 40 °F into a temperature in °C.

..... °C

(1)

The temperature in a freezer needs to be 0 °F.

The temperature in Dave's freezer is –10 °C.

*(b) Compare the temperature in Dave's freezer with 0 °F.
You must show your working.

(3)

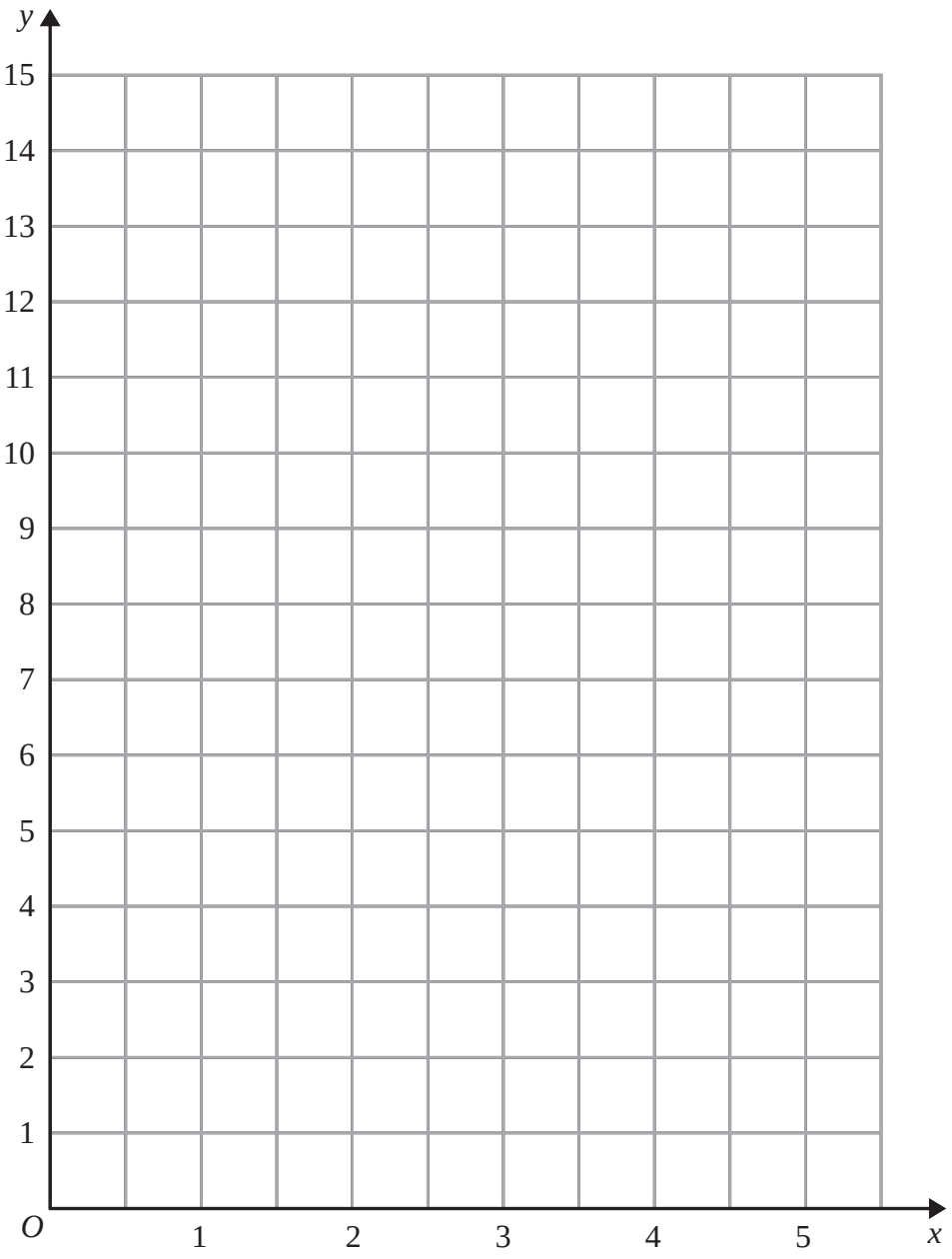
(Total for Question 14 is 4 marks)

17 (a) Complete the table of values for $y = 2x + 3$ for values of x from 0 to 5

x	0	1	2	3	4	5
y		5		9		

(2)

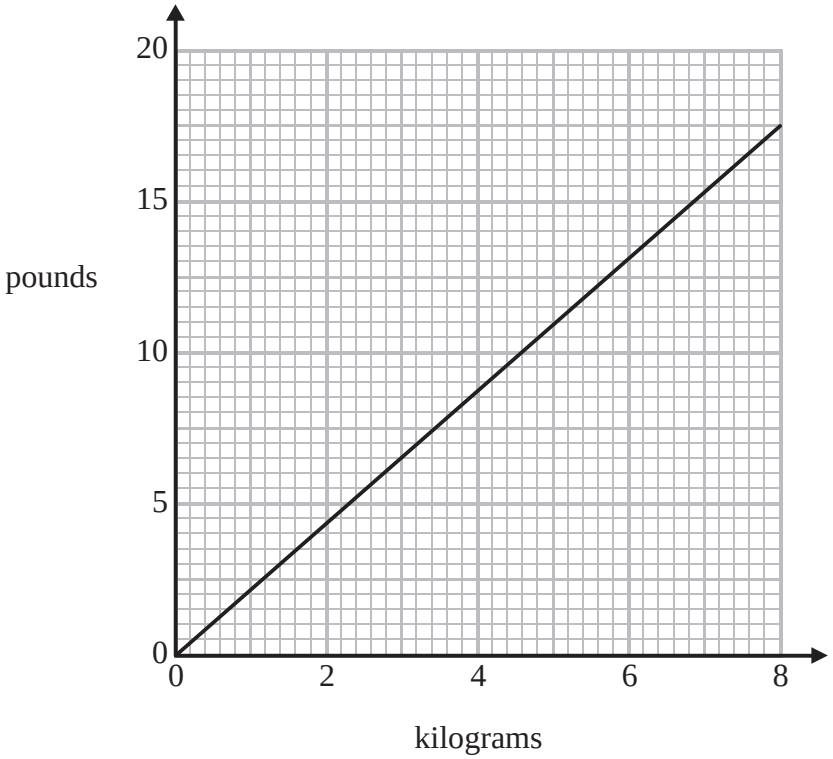
(b) On the grid, draw the graph of $y = 2x + 3$ for values of x from 0 to 5



(2)

(Total for Question 17 is 4 marks)

11 You can use this conversion graph to change between kilograms and pounds.



(a) Use the conversion graph to change 5 kilograms to pounds.

..... pounds
(1)

Brett weighs 150 pounds.
Henri weighs 64 kilograms.

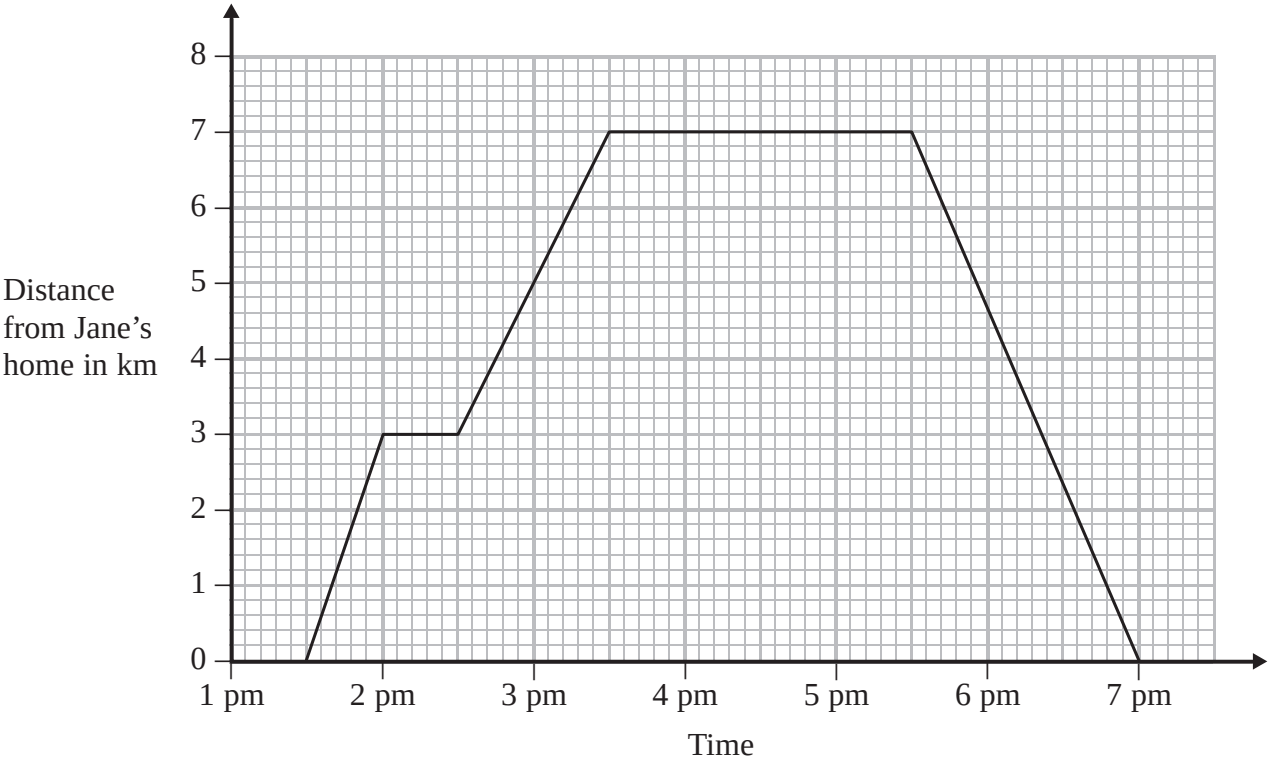
(b) Work out their total weight.
Give your answer in kilograms.
You must show your working.

..... kilograms
(3)

(Total for Question 11 is 4 marks)

17 Jane walked from her home to the ice rink and then walked back home.

The travel graph for Jane's journey to the ice rink and back home is shown below.



On the way to the ice rink Jane stopped at her friend's house.

(a) How long did Jane stay at her friend's house?

.....

(1)

(b) How far is it from her friend's house to the ice rink?

..... km

(1)

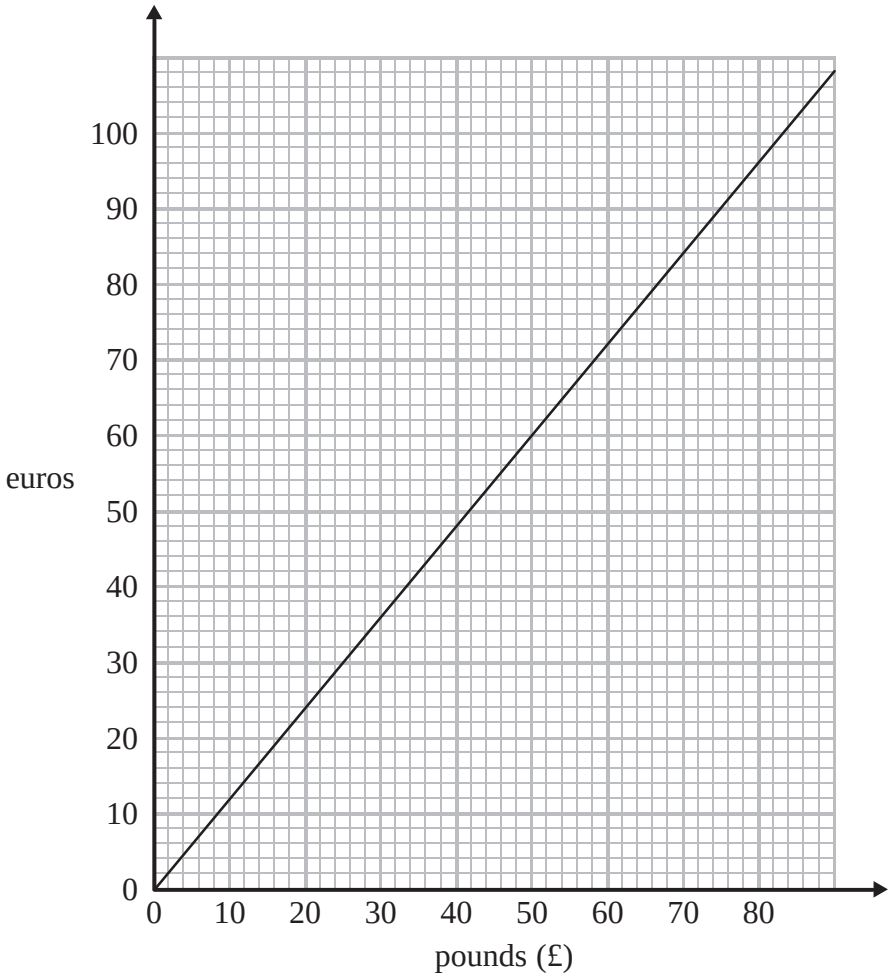
(c) What time did Jane leave the ice rink?

.....

(1)

(Total for Question 17 is 3 marks)

15 You can use this conversion graph to change between pounds (£) and euros.



(a) Change £55 into euros.

..... euros

(1)

(b) Change 150 euros into pounds (£).

£.....

(2)

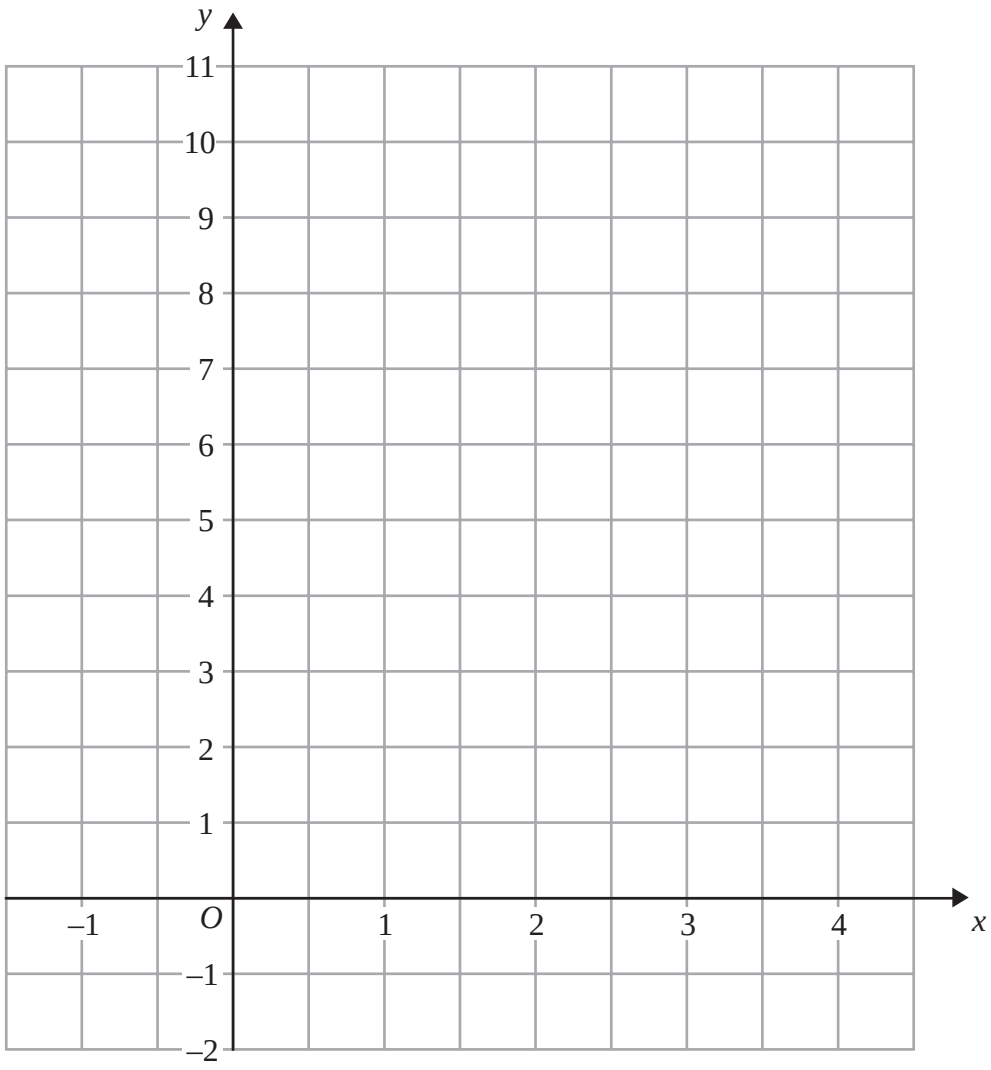
(Total for Question 15 is 3 marks)

20 (a) Complete the table of values for $y = 8 - 2x$

x	–1	0	1	2	3	4
y			6			0

(2)

(b) On the grid, draw the graph of $y = 8 - 2x$ for values of x from –1 to 4



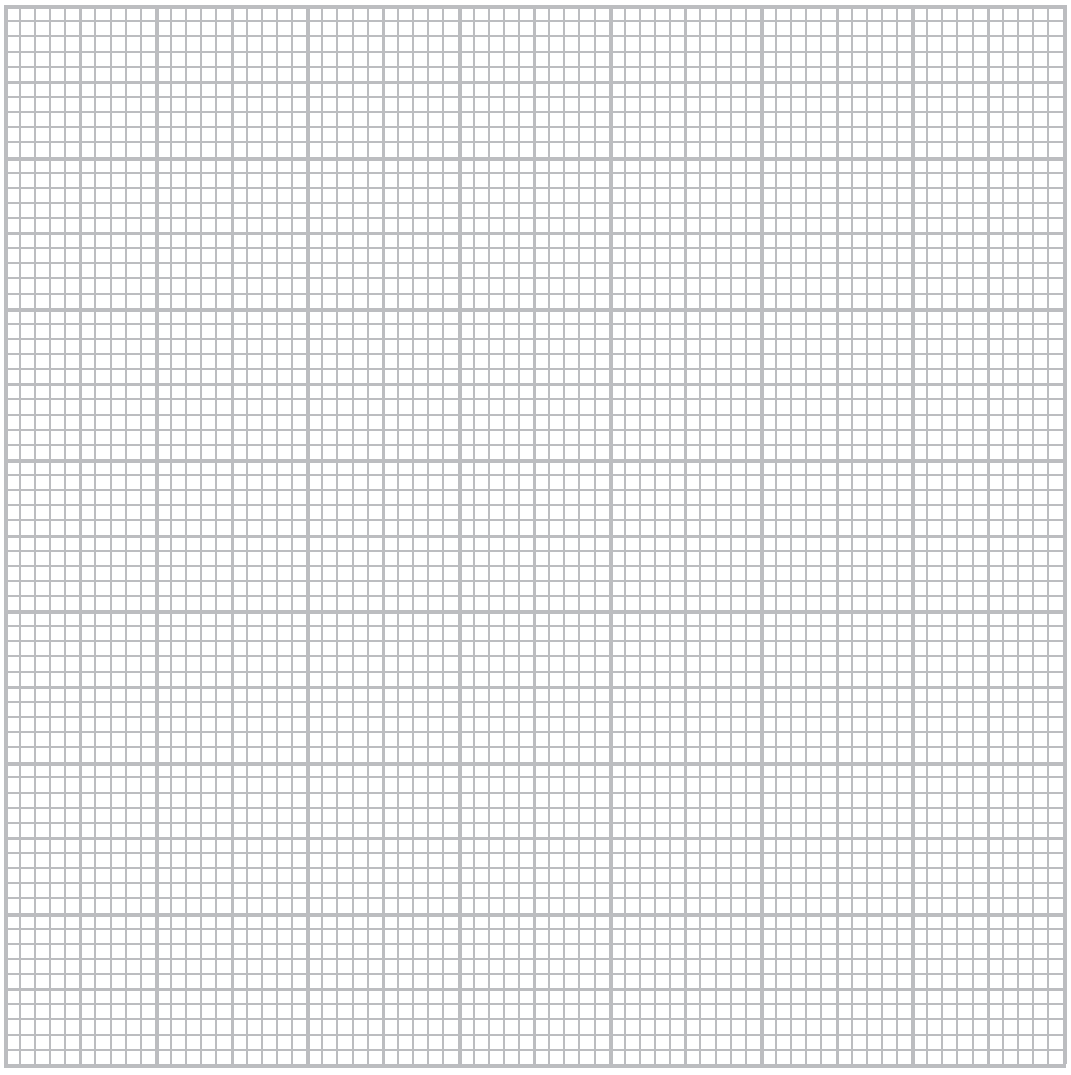
(2)

(Total for Question 20 is 4 marks)

***6** The table shows information about the number of times Trudy and Phil each played a computer game in each of four months this year.

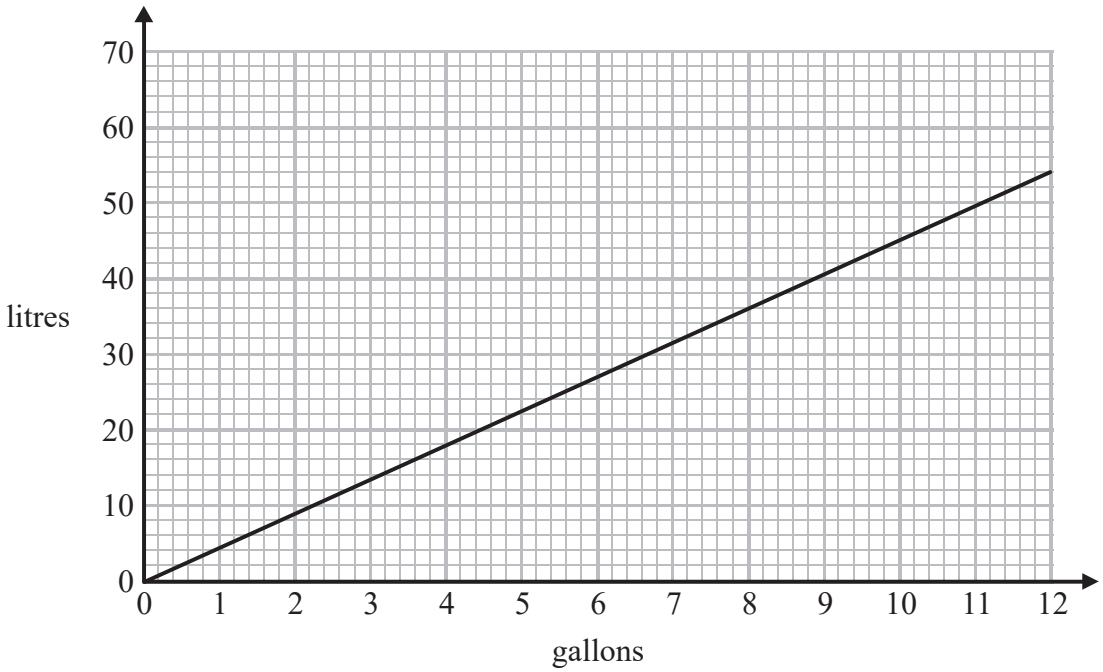
	February	March	April	May
Trudy	25	50	35	15
Phil	10	40	35	20

On the grid, draw a suitable graph to show this information.



(Total for Question 6 is 4 marks)

9 You can use this graph to change between gallons and litres.



(a) Change 36 litres to gallons.

..... gallons

(1)

The fuel tank of a bus holds 450 litres of fuel when completely full.

The fuel tank is empty.

Kerrie puts 90 gallons of fuel in the fuel tank.

*(b) Is the fuel tank completely full?
You must show how you get your answer.

(3)

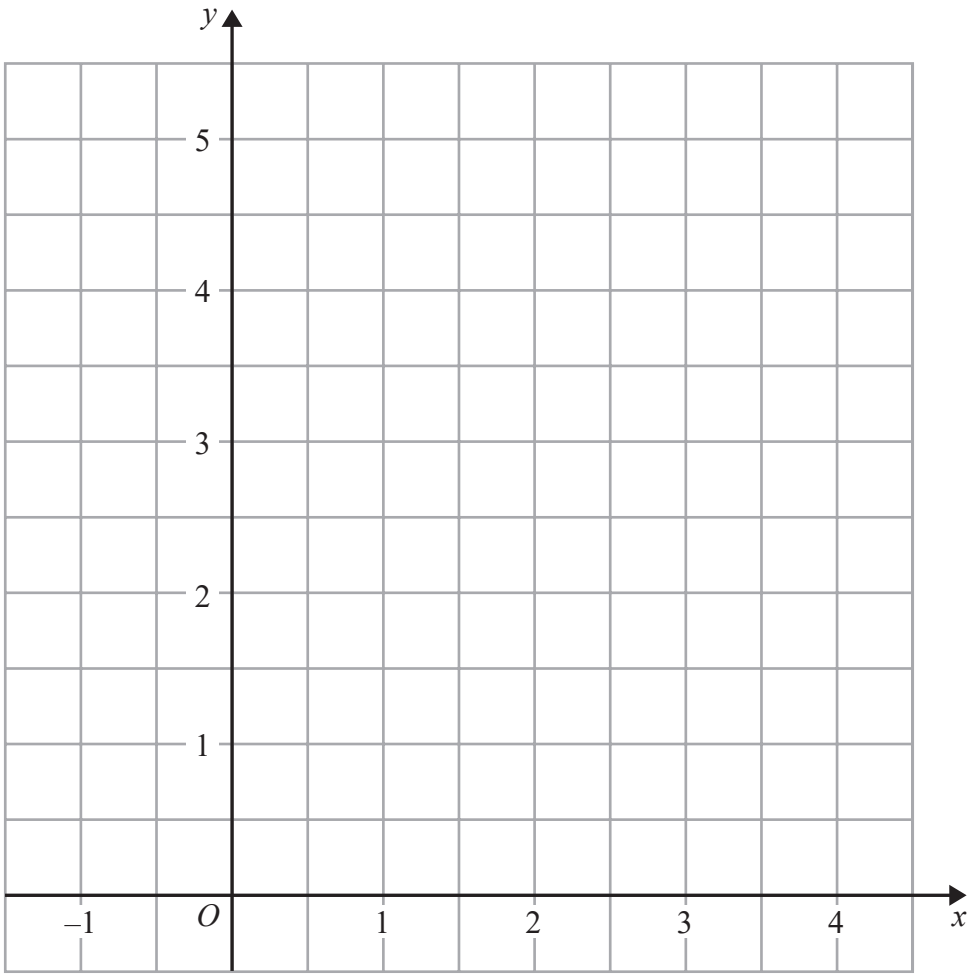
(Total for Question 9 is 4 marks)

21 (a) Complete the table of values for $x + y = 4$

x	–1	0	1	2	3	4
y			3			0

(2)

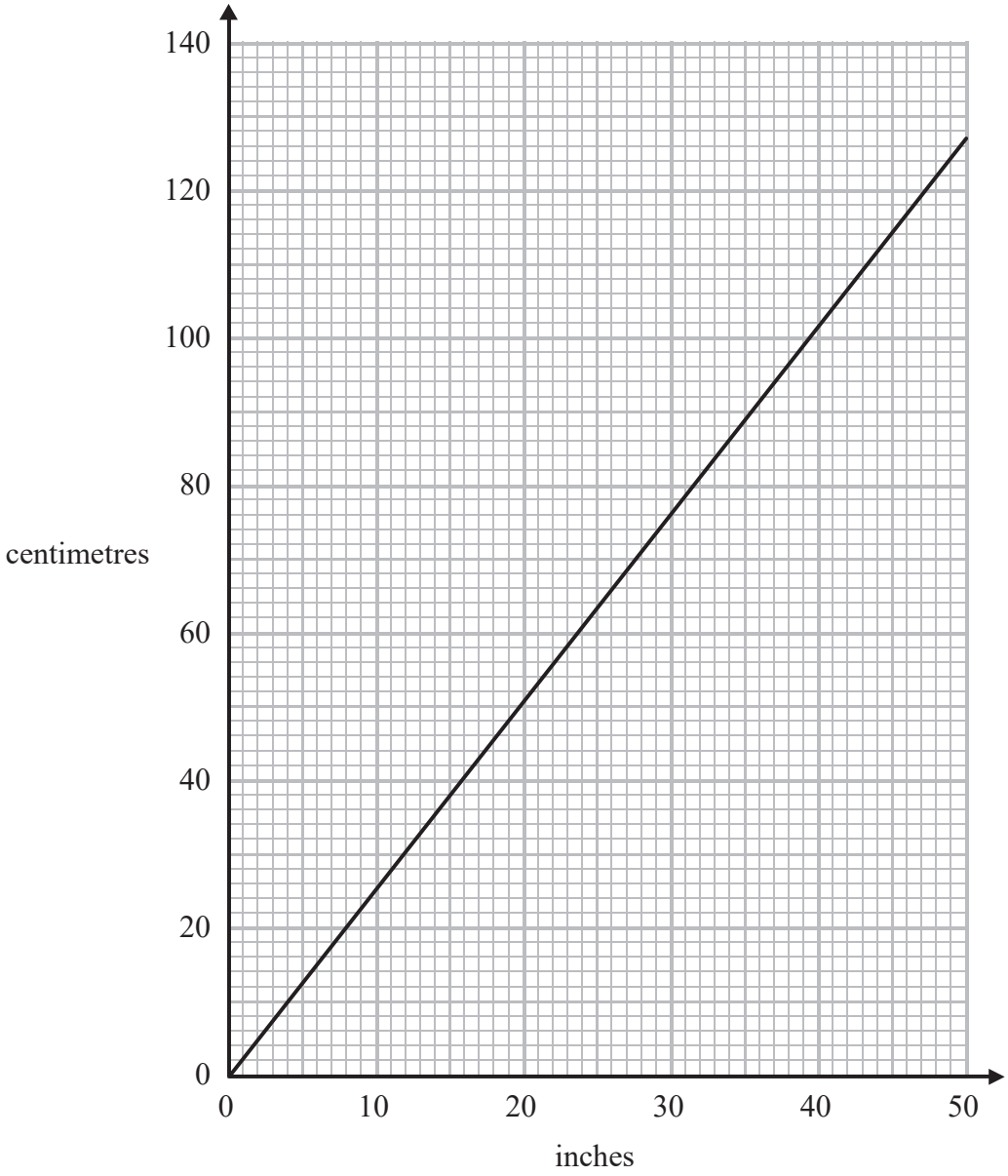
(b) On the grid, draw the graph of $x + y = 4$ for values of x from –1 to 4



(2)

(Total for Question 21 is 4 marks)

11 You can use this graph to change between inches and centimetres.



(a) Change 74 cm to inches.

..... inches

(1)

Daniel's height is 6 feet 3 inches.

1 foot = 12 inches

(b) What is Daniel's height in centimetres?

..... centimetres
(3)

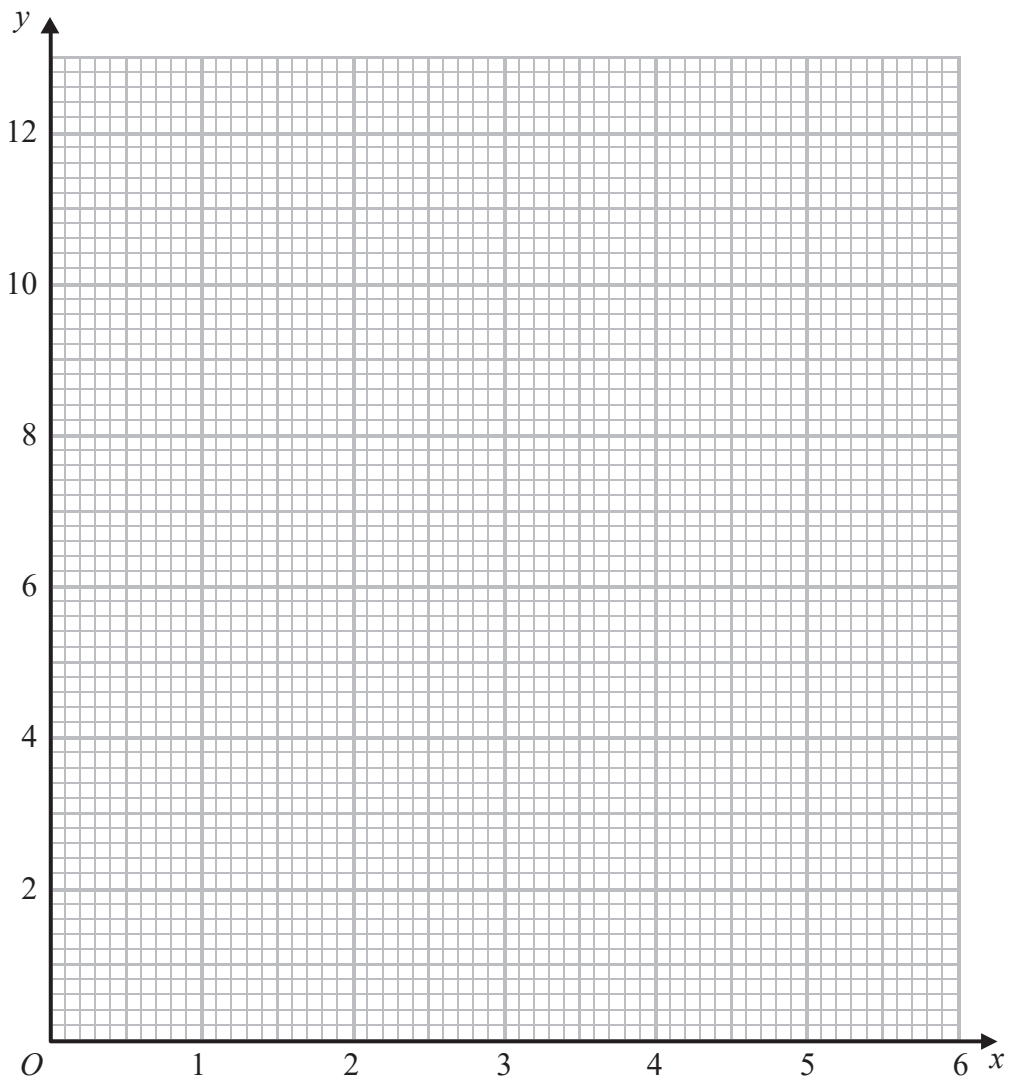
(Total for Question 11 is 4 marks)

22 (a) Complete the table of values for $y = \frac{6}{x}$

x	0.5	1	1.5	2	3	4	5	6
y		6		3		1.5		

(2)

(b) On the grid below, draw the graph of $y = \frac{6}{x}$ for values of x from 0.5 to 6

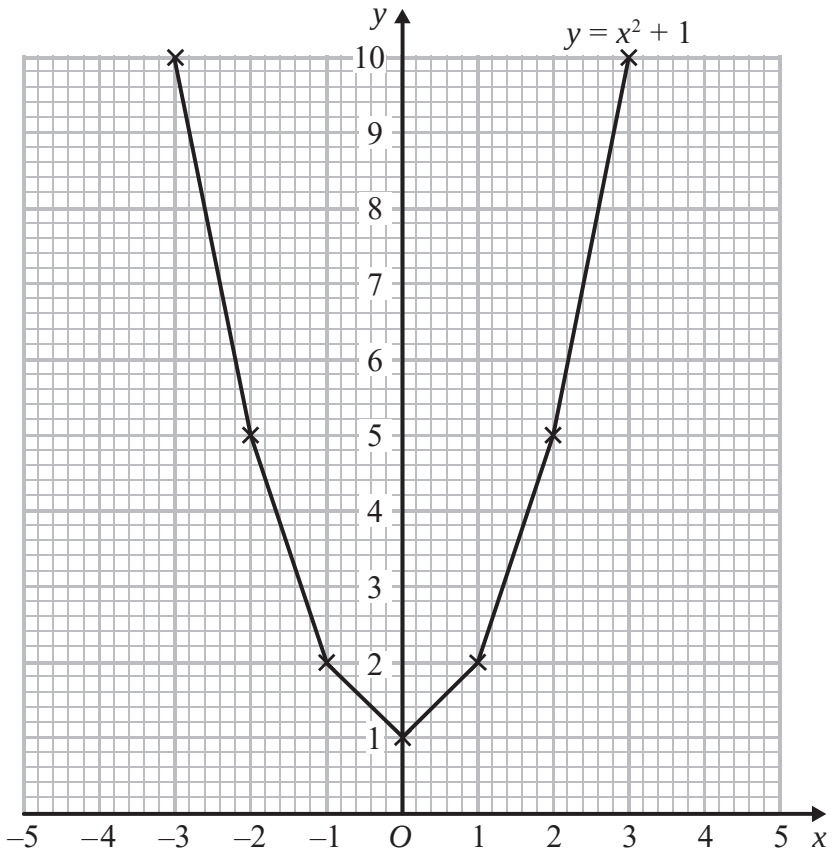


(2)

(Total for Question 22 is 4 marks)

29 Brogan needs to draw the graph of $y = x^2 + 1$

Here is her graph.



Write down one thing that is wrong with Brogan's graph.

.....

.....

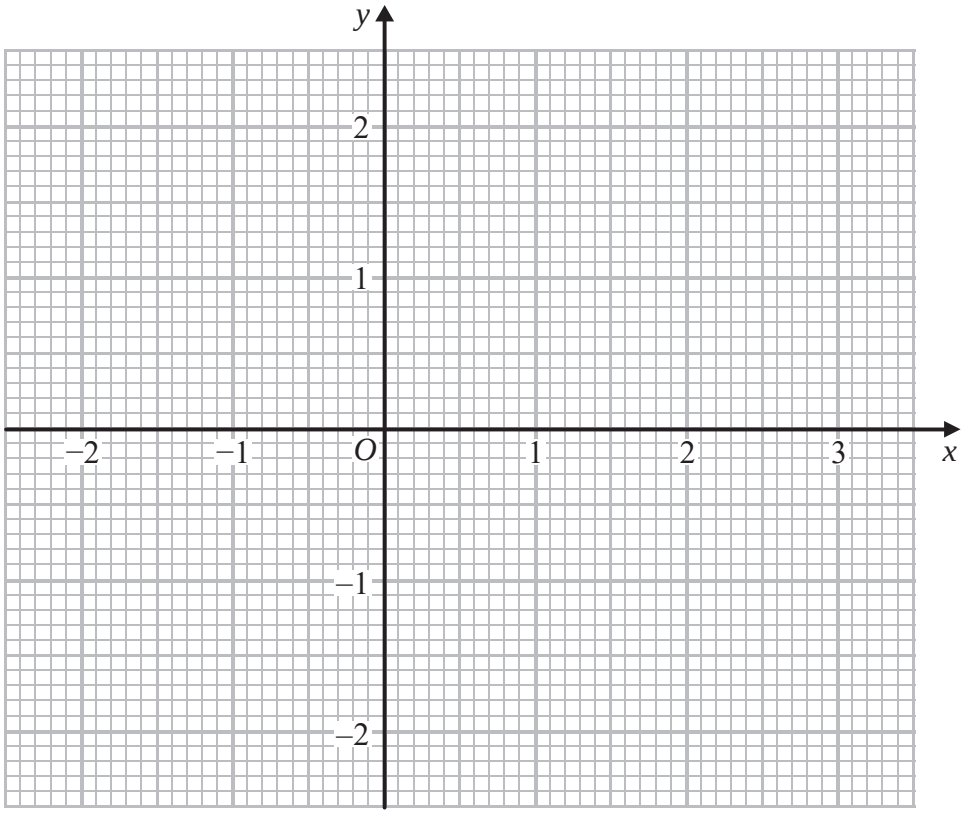
(Total for Question 29 is 1 mark)

13 (a) Complete the table of values for $y = \frac{1}{2}x - 1$

x	−2	−1	0	1	2	3
y	−2				0	

(2)

(b) On the grid, draw the graph of $y = \frac{1}{2}x - 1$ for values of x from −2 to 3



(2)

(c) Use your graph to find the value of x when $y = 0.3$

$x =$ .....

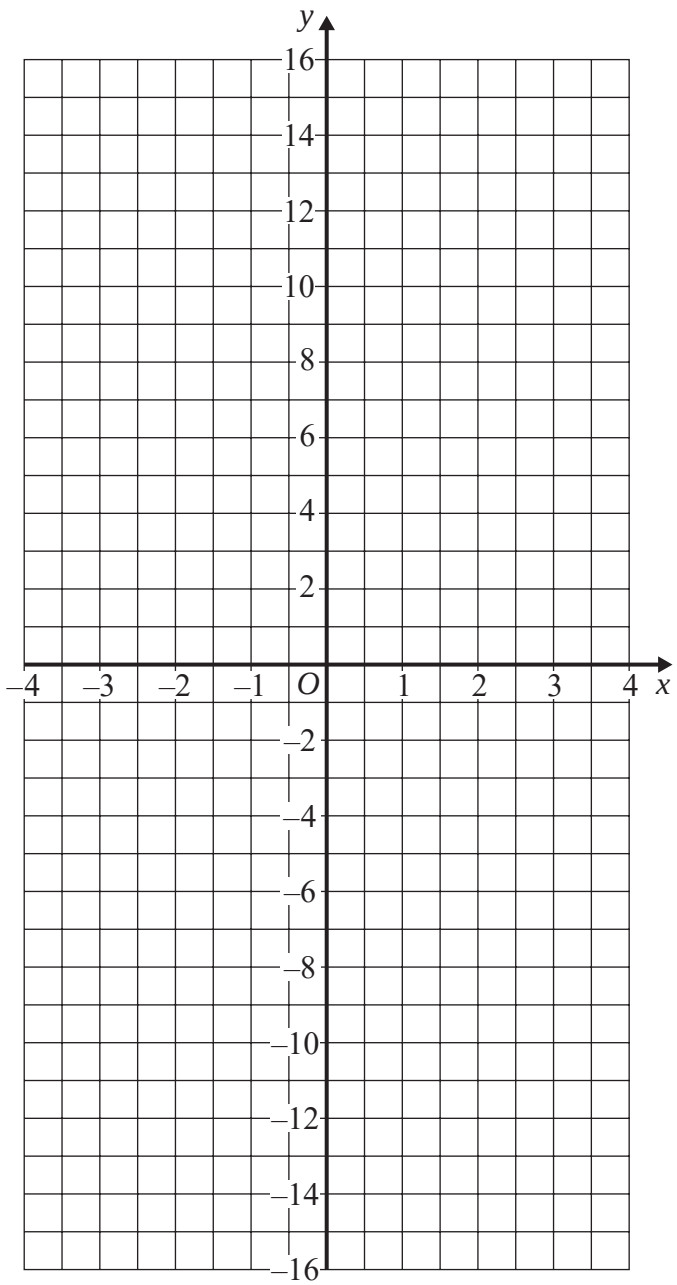
(1)

(Total for Question 13 is 5 marks)

Question 53

June 2018 | 1MA1/1F | Original Q25

25 On the grid below, draw the graph of $y = 1 - 4x$ for values of x from -3 to 3



(Total for Question 25 is 3 marks)

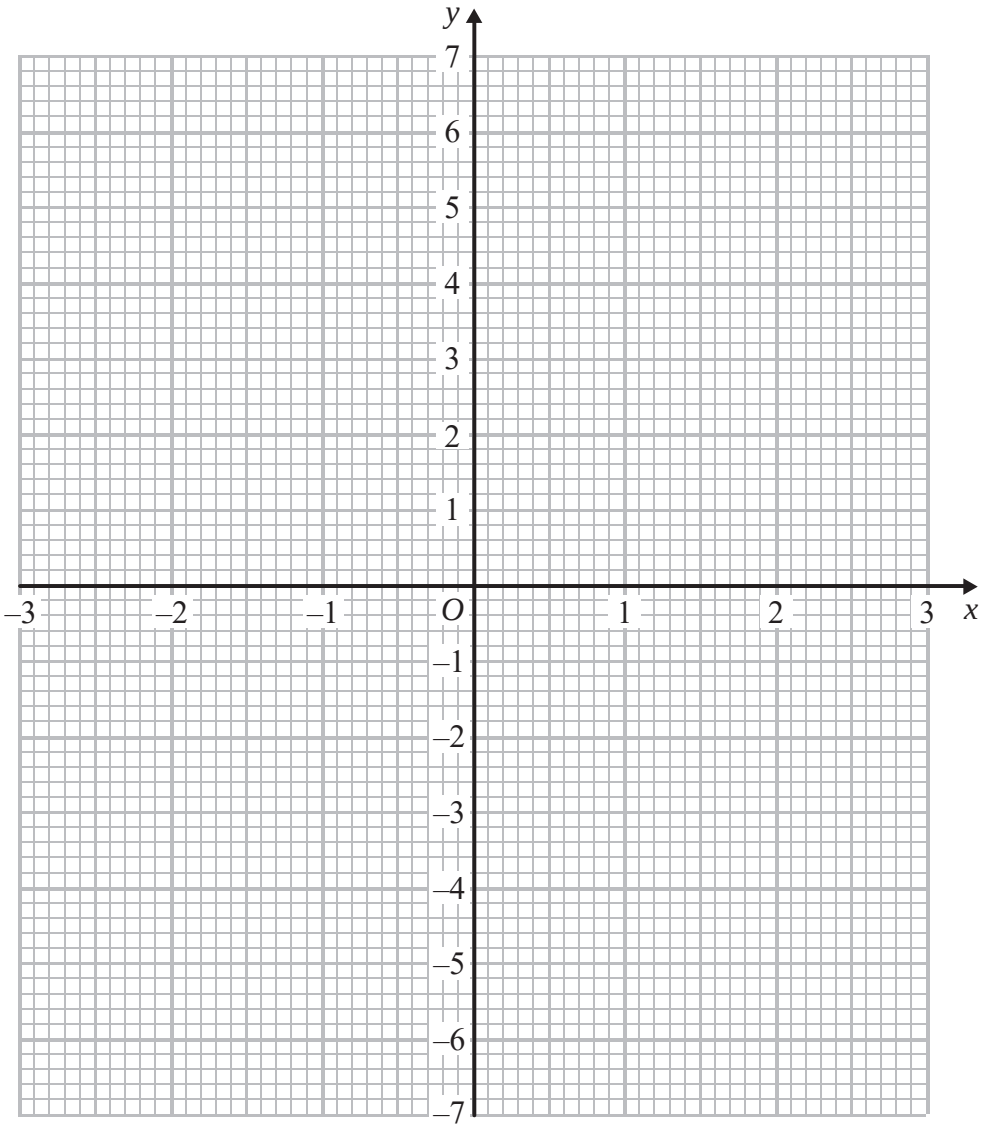
24 (a) Complete the table of values for $y = x^2 - x - 6$

x	–3	–2	–1	0	1	2	3
y	6			– 6			

(2)

(b) On the grid, draw the graph of $y = x^2 - x - 6$ for values of x from –3 to 3

(2)



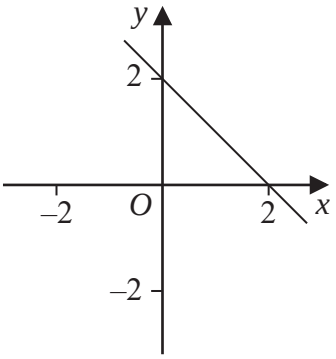
(c) Use your graph to find estimates of the solutions to the equation $x^2 - x - 6 = -2$

.....

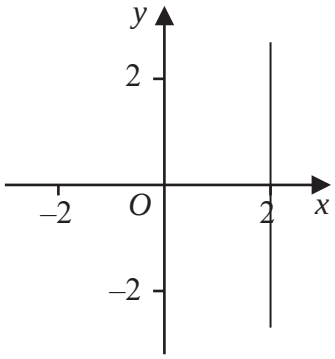
(2)

(Total for Question 24 is 6 marks)

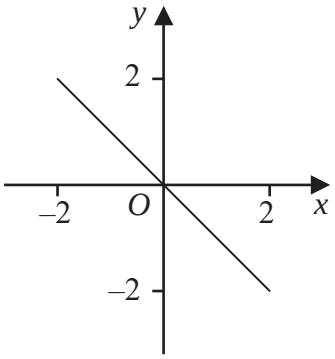
13 Here are six straight line graphs.



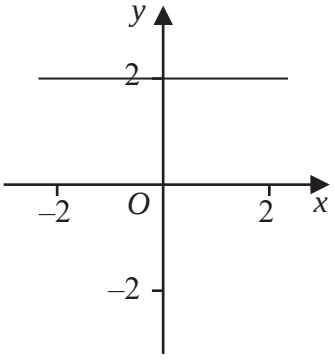
Graph **A**



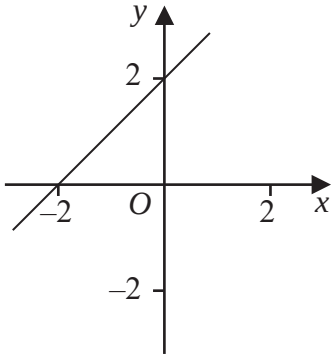
Graph **B**



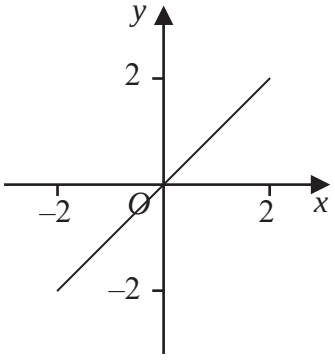
Graph **C**



Graph **D**



Graph **E**



Graph **F**

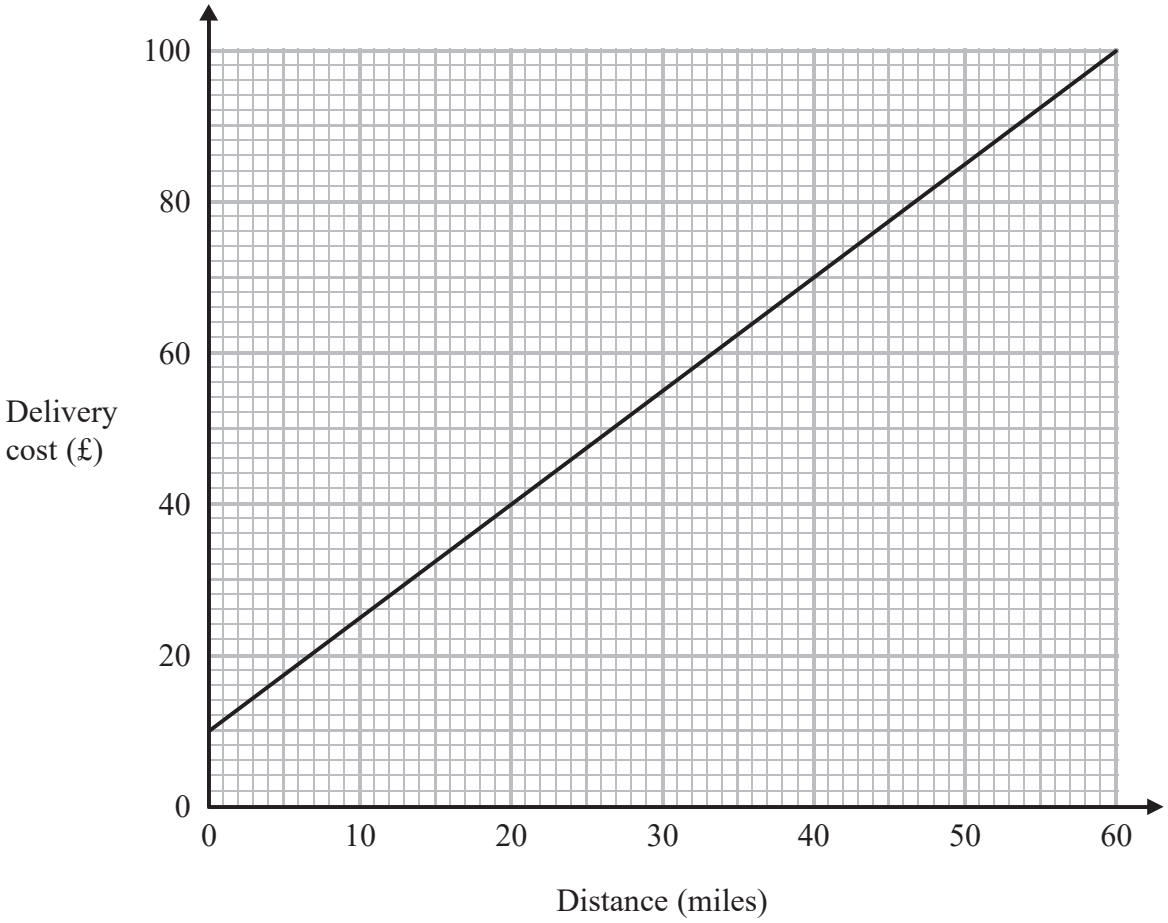
Match each equation in the table to the correct graph.
Write the letter of the graph in the table.

Equation	Graph
$y = 2$	
$y = x$	
$x + y = 2$	

(Total for Question 13 is 2 marks)

12 Tom uses his lorry to deliver bricks.

You can use this graph to find the delivery cost for different distances.



For each delivery, there is a fixed charge plus a charge for the distance.

(a) How much is the fixed charge?

£ .....

(1)

Tom makes two deliveries of bricks.
The distance of one delivery is 20 miles more than the distance of the other delivery.

(b) Work out the difference between the two delivery costs.

£ .....

(2)

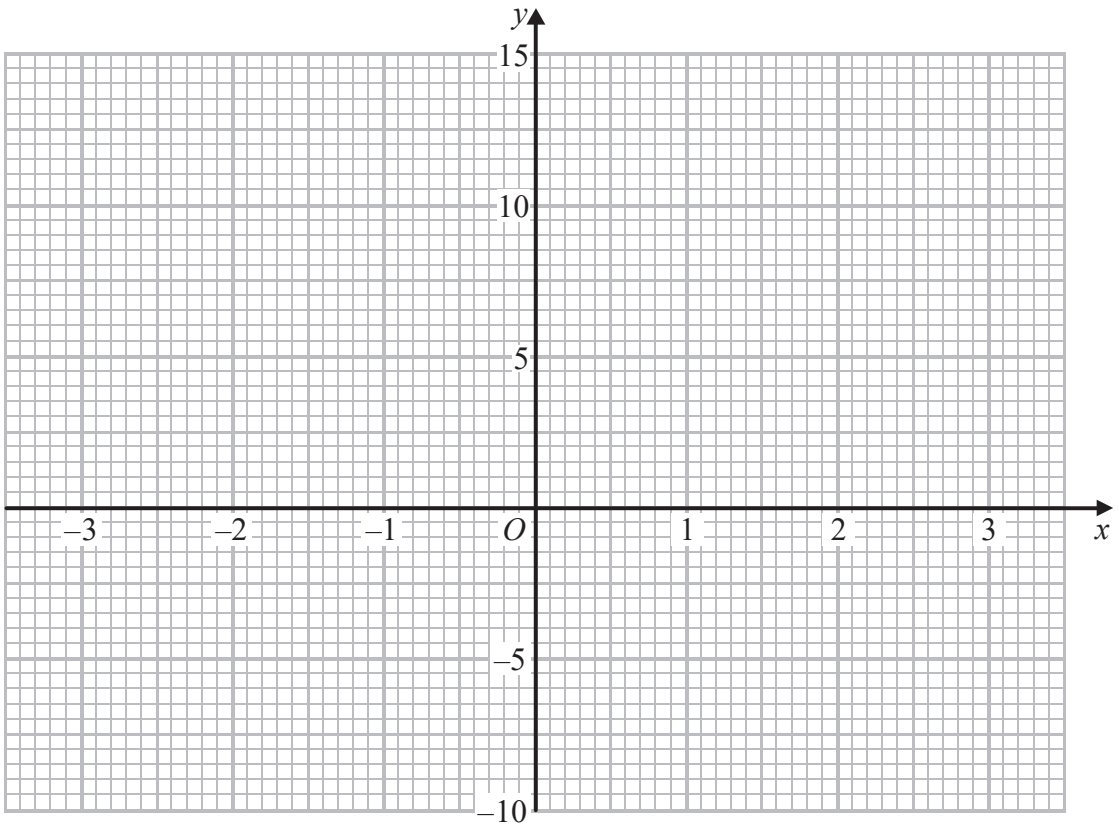
(Total for Question 12 is 3 marks)

22 (a) Complete this table of values for $y = x^2 + x - 4$

x	–3	–2	–1	0	1	2	3
y		–2	–4		–2		

(2)

(b) On the grid, draw the graph of $y = x^2 + x - 4$ for values of x from –3 to 3



(2)

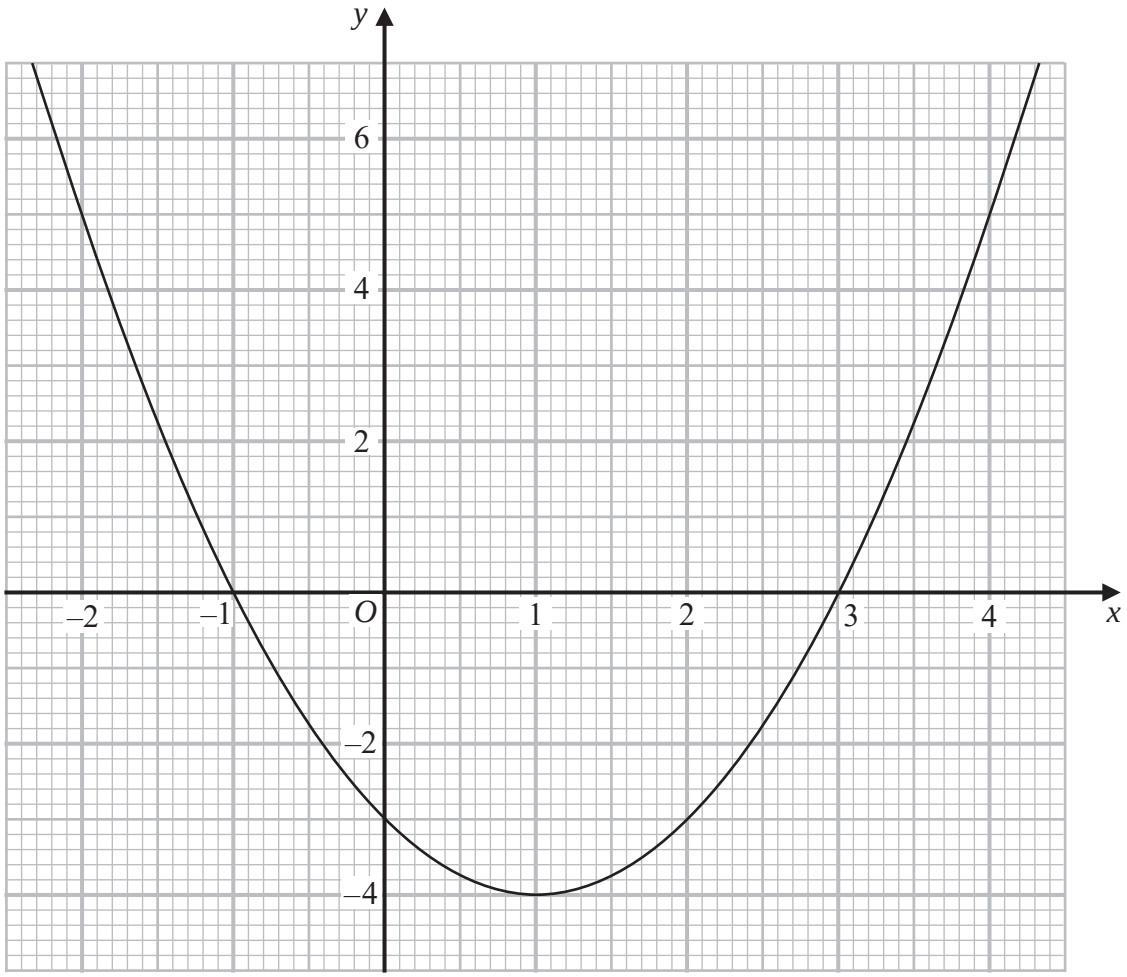
(c) Use the graph to estimate a solution to $x^2 + x - 4 = 0$

.....

(1)

(Total for Question 22 is 5 marks)

29 Here is the graph of $y = x^2 - 2x - 3$



(a) Write down the coordinates of the turning point on the graph of $y = x^2 - 2x - 3$

(..... , ...)

(1)

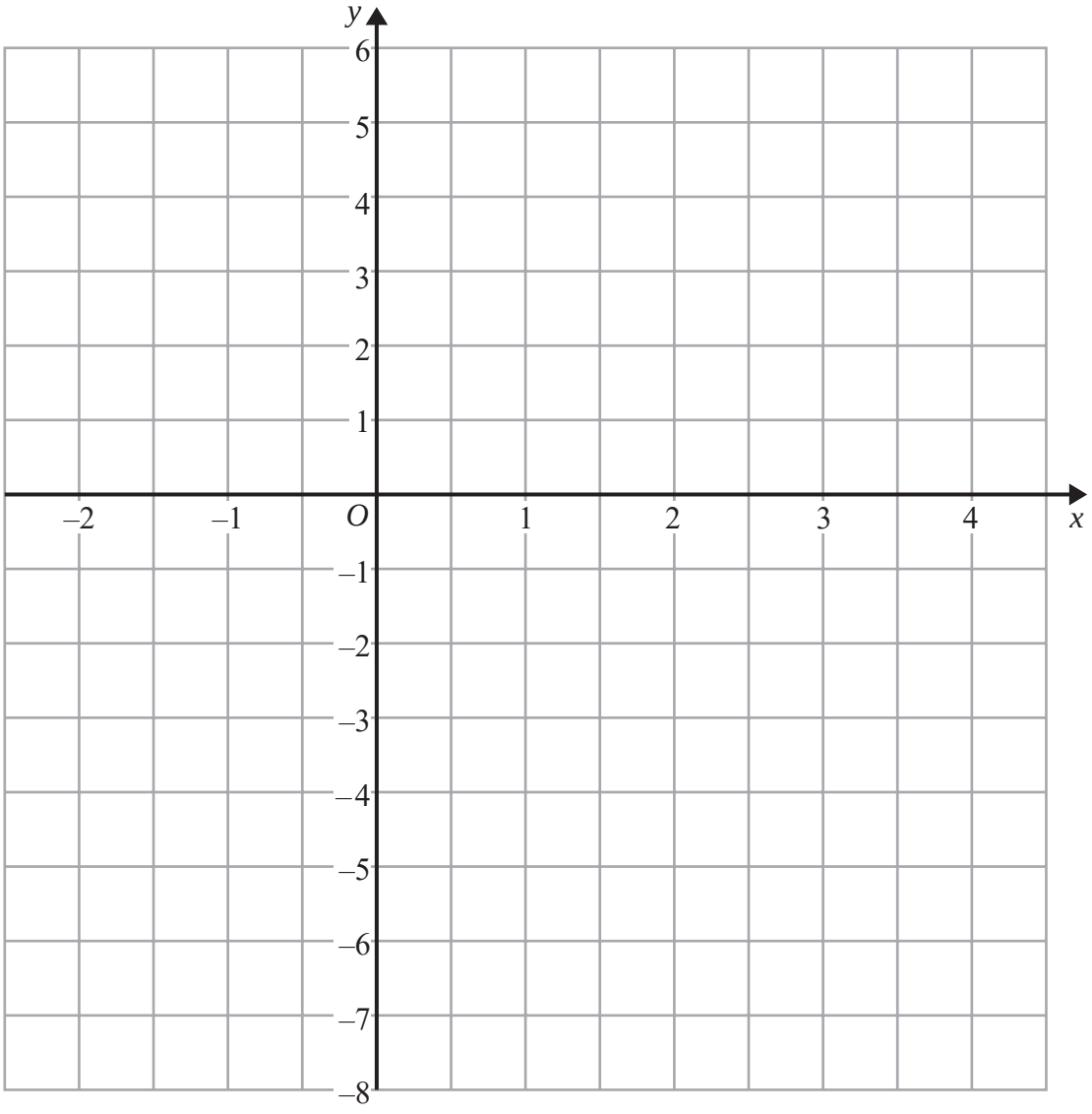
(b) Use the graph to find the roots of the equation $x^2 - 2x - 3 = 0$

.....

(2)

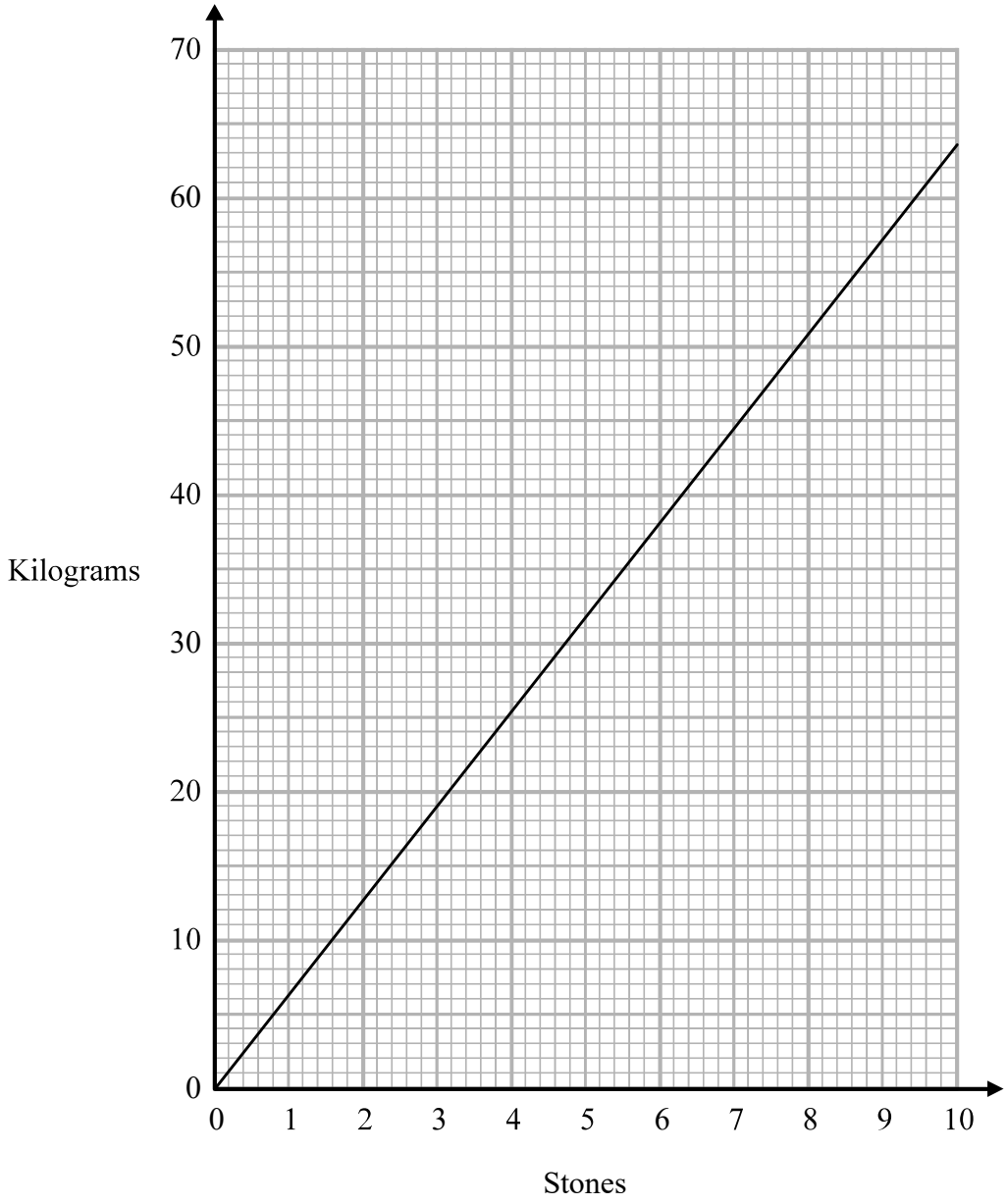
(Total for Question 29 is 3 marks)

21 On the grid below, draw the graph of $y = 2x - 3$ for values of x from -2 to 4



(Total for Question 21 is 3 marks)

11 You can use this graph to change between stones and kilograms.



(a) Change 3 stones to kilograms.

..... kilograms
(1)

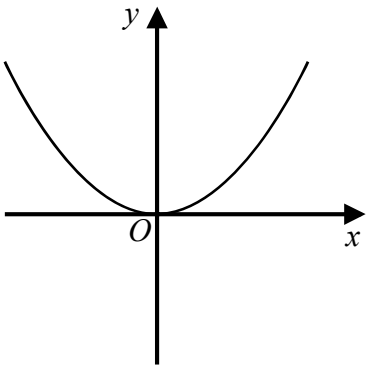
(b) Change 80 kilograms to stones.

..... stones
(2)

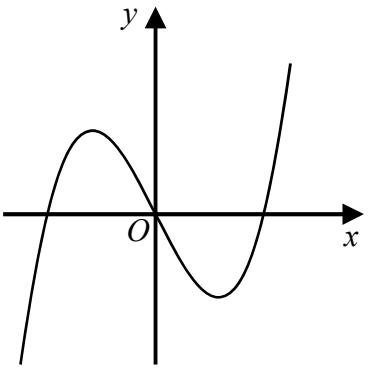
(Total for Question 11 is 3 marks)

25 Here are six graphs.

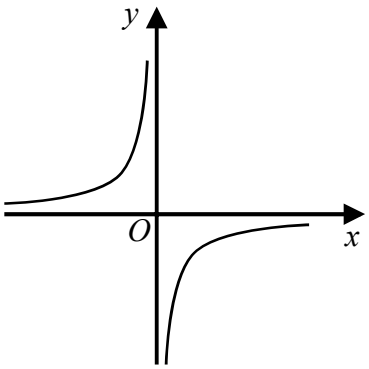
A



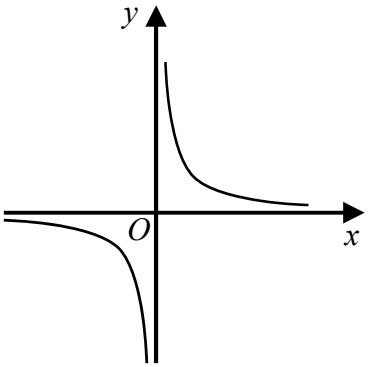
B



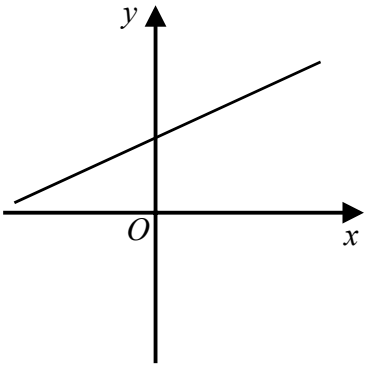
C



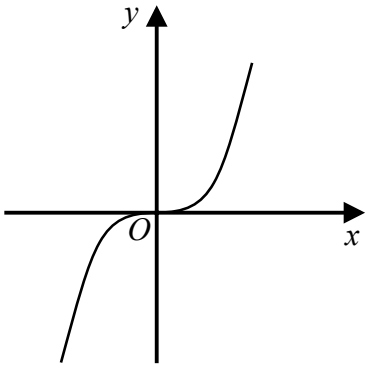
D



E



F



Write down the letter of the graph that could have the equation

(a) $y = x^3$

.....

(1)

(b) $y = \frac{1}{x}$

.....

(1)

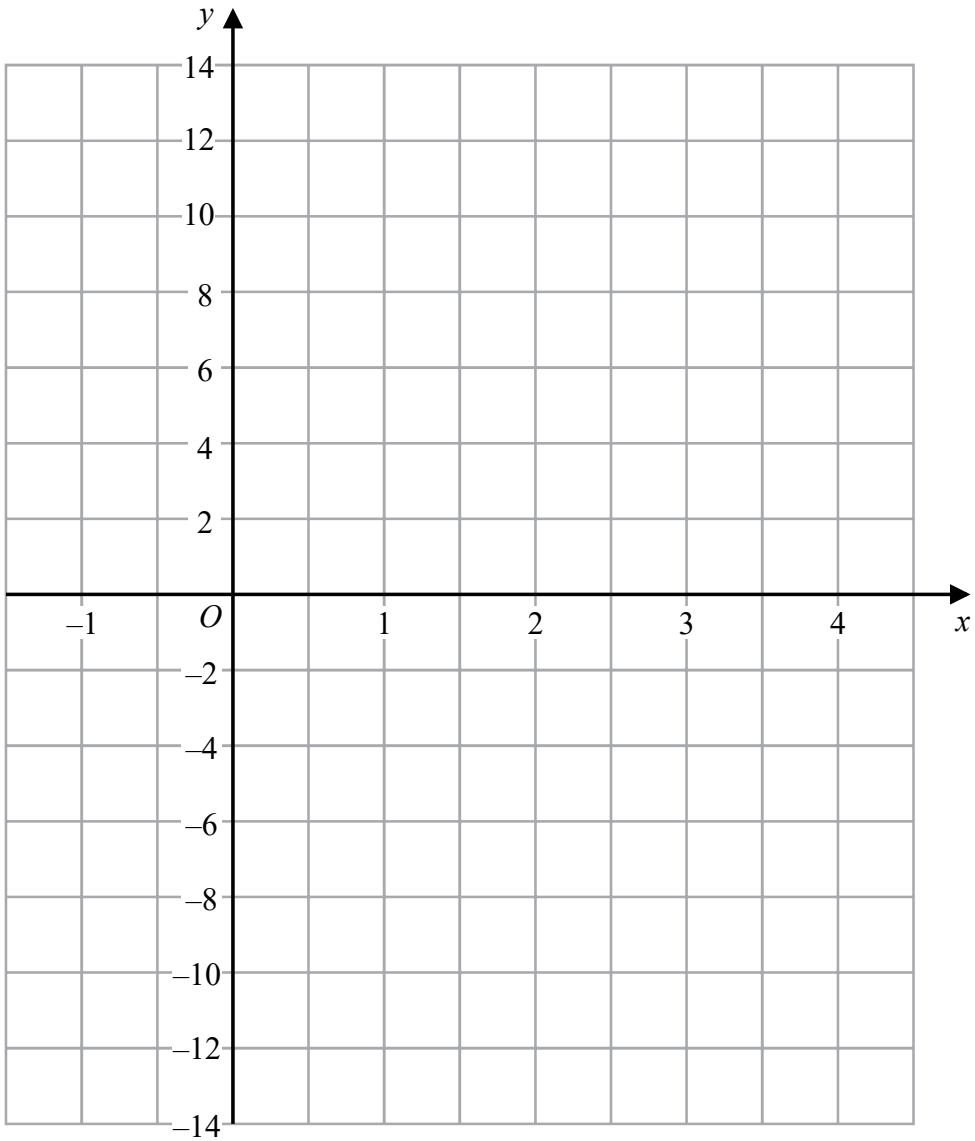
(Total for Question 25 is 2 marks)

17 (a) Complete the table of values for $y = 4x - 6$

x	-1	0	1	2	3	4
y			-2			10

(2)

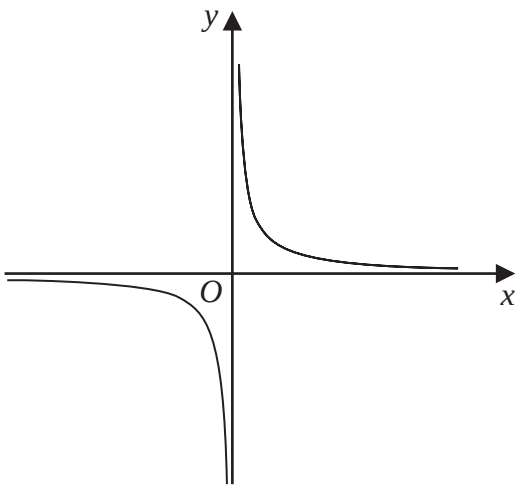
(b) On the grid, draw the graph of $y = 4x - 6$ for values of x from -1 to 4



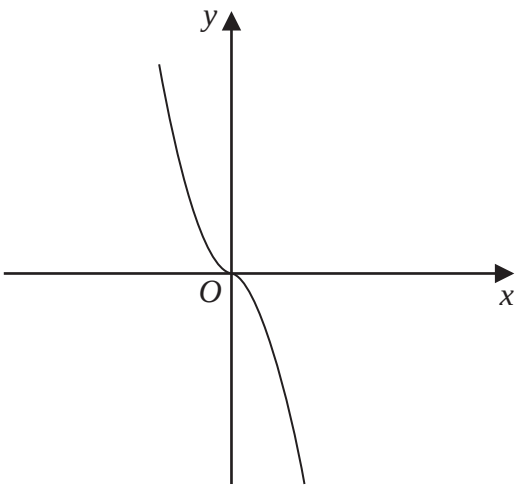
(2)

(Total for Question 17 is 4 marks)

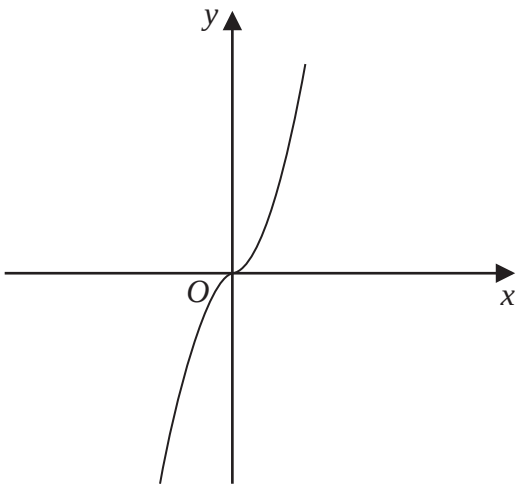
22 The diagram shows four graphs.



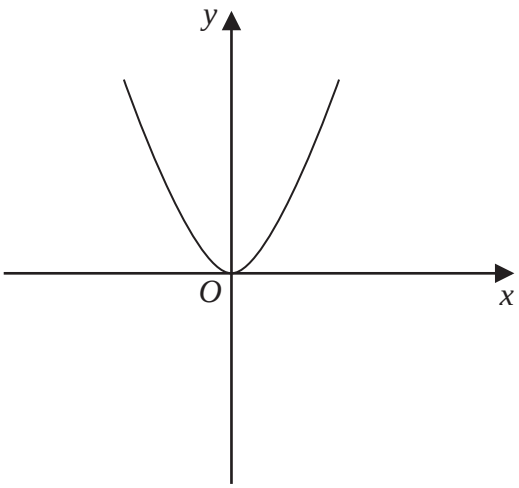
Graph **A**



Graph **B**



Graph **C**



Graph **D**

Each of the equations in the table is the equation of one of the graphs.

Complete the table.

Equation	Letter of graph
$y = -x^3$	
$y = x^3$	
$y = x^2$	
$y = \frac{1}{x}$	

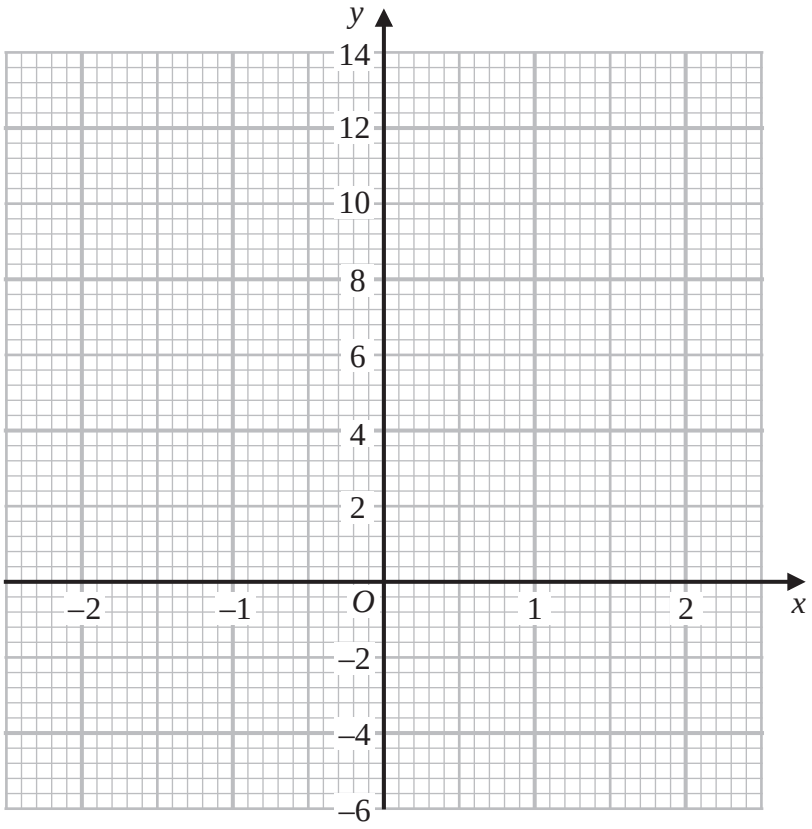
(Total for Question 22 is 2 marks)

24 (a) Complete the table of values for $y = 5 - x^3$

x	–2	–1	0	1	2
y		6			

(2)

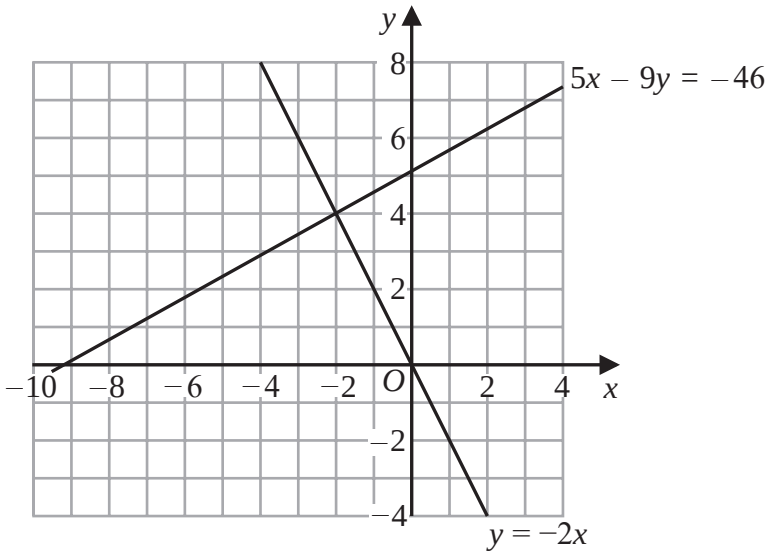
(b) On the grid below, draw the graph of $y = 5 - x^3$ for values of x from –2 to 2



(2)

(Total for Question 24 is 4 marks)

28



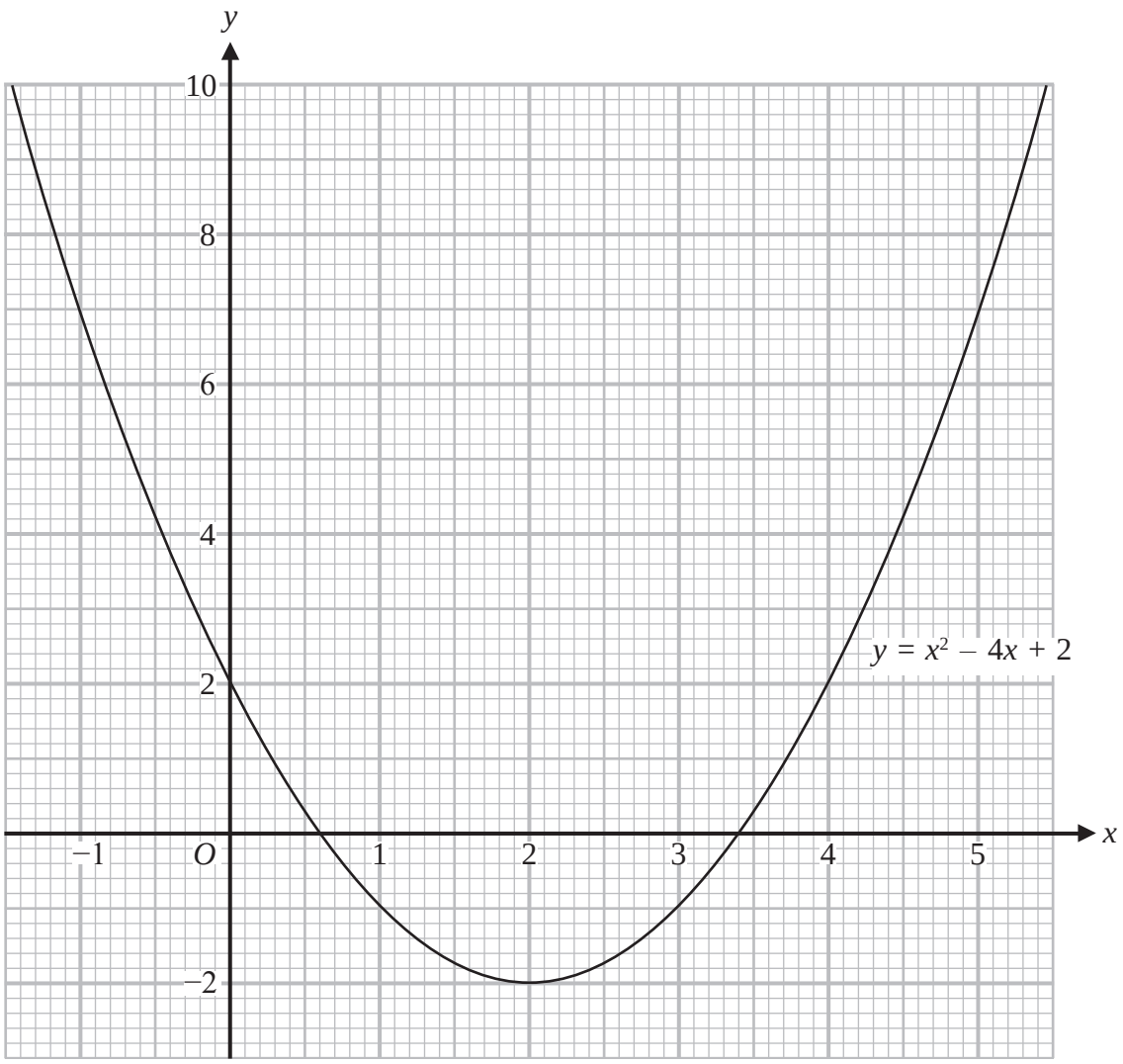
(a) Use these graphs to solve the simultaneous equations

$$5x - 9y = -46$$
$$y = -2x$$

$x =$ .....

$y =$ .....

(1)



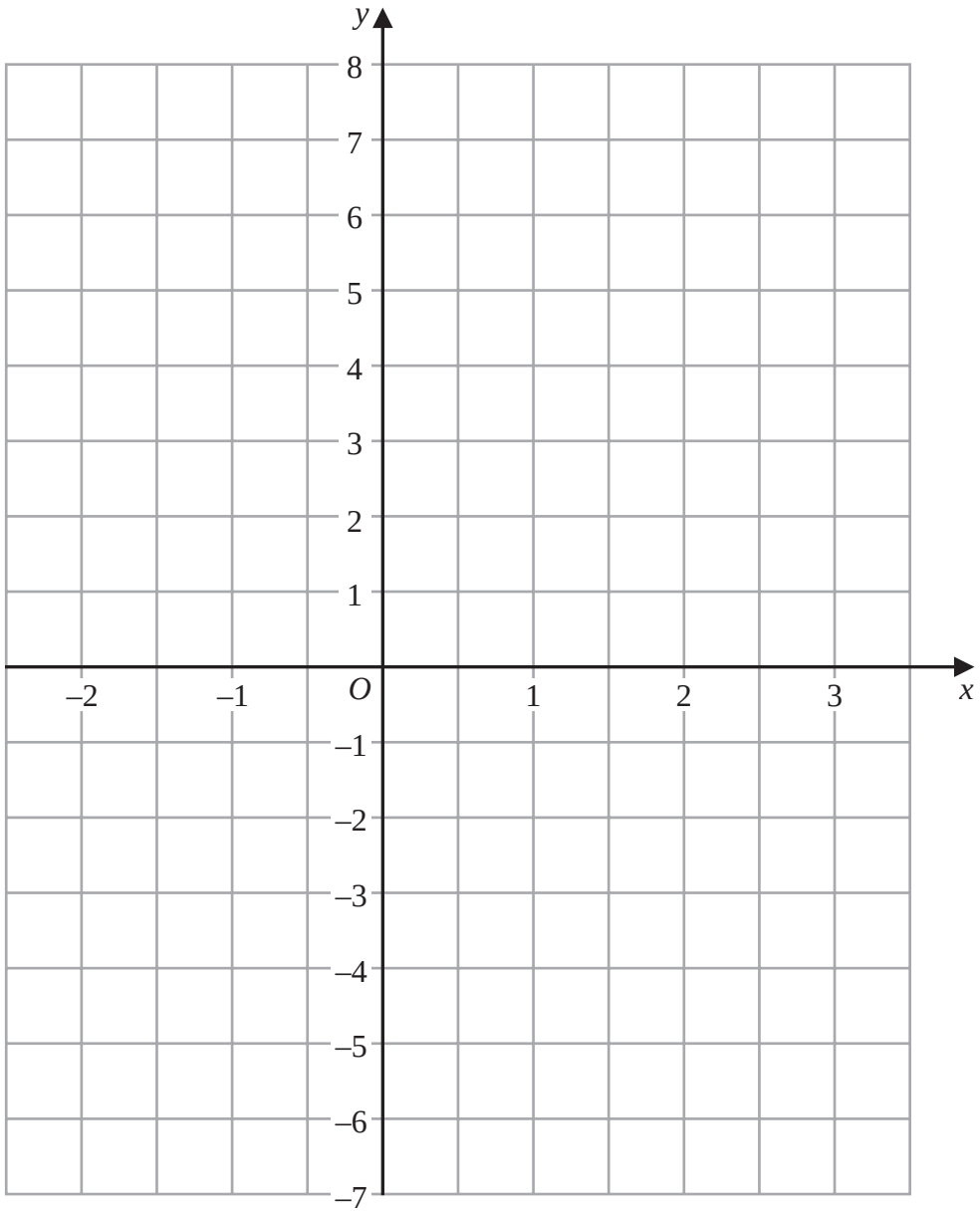
(b) Use this graph to find estimates for the solutions of the quadratic equation $x^2 - 4x + 2 = 0$

.....

(2)

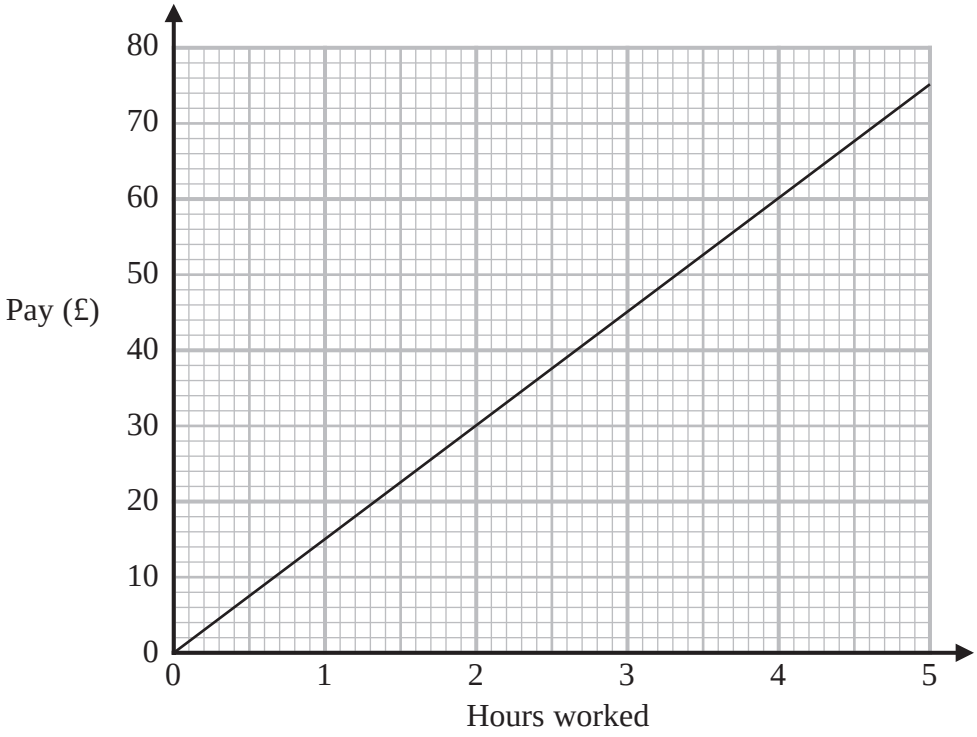
(Total for Question 28 is 3 marks)

18 On the grid below, draw the graph of $y = 2x - 2$ for values of x from –2 to 3



(Total for Question 18 is 3 marks)

14 Nazima uses this graph to find out how much money she is paid for the number of hours she has worked.



(a) How much money is Nazima paid for each hour she works?

£.....

(1)

Last week Nazima worked for 36 hours.

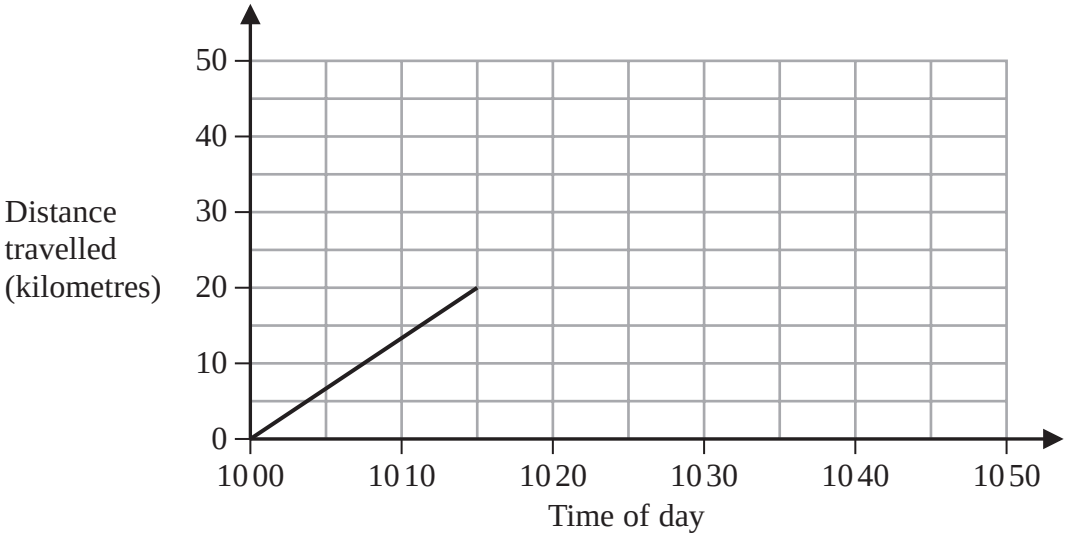
(b) How much money was Nazima paid?

£.....

(2)

(Total for Question 14 is 3 marks)

23 Sam drives his car on a journey.
Here is the travel graph for the first 15 minutes of his journey.



(a) Work out Sam's speed, in km/h, for the first 15 minutes of his journey.

..... km/h
(2)

At 10 15 Sam stops for 10 minutes and then drives for 20 minutes at a speed of 75 km/h.

(b) On the grid, complete the travel graph for Sam's journey.

(3)

(Total for Question 23 is 5 marks)

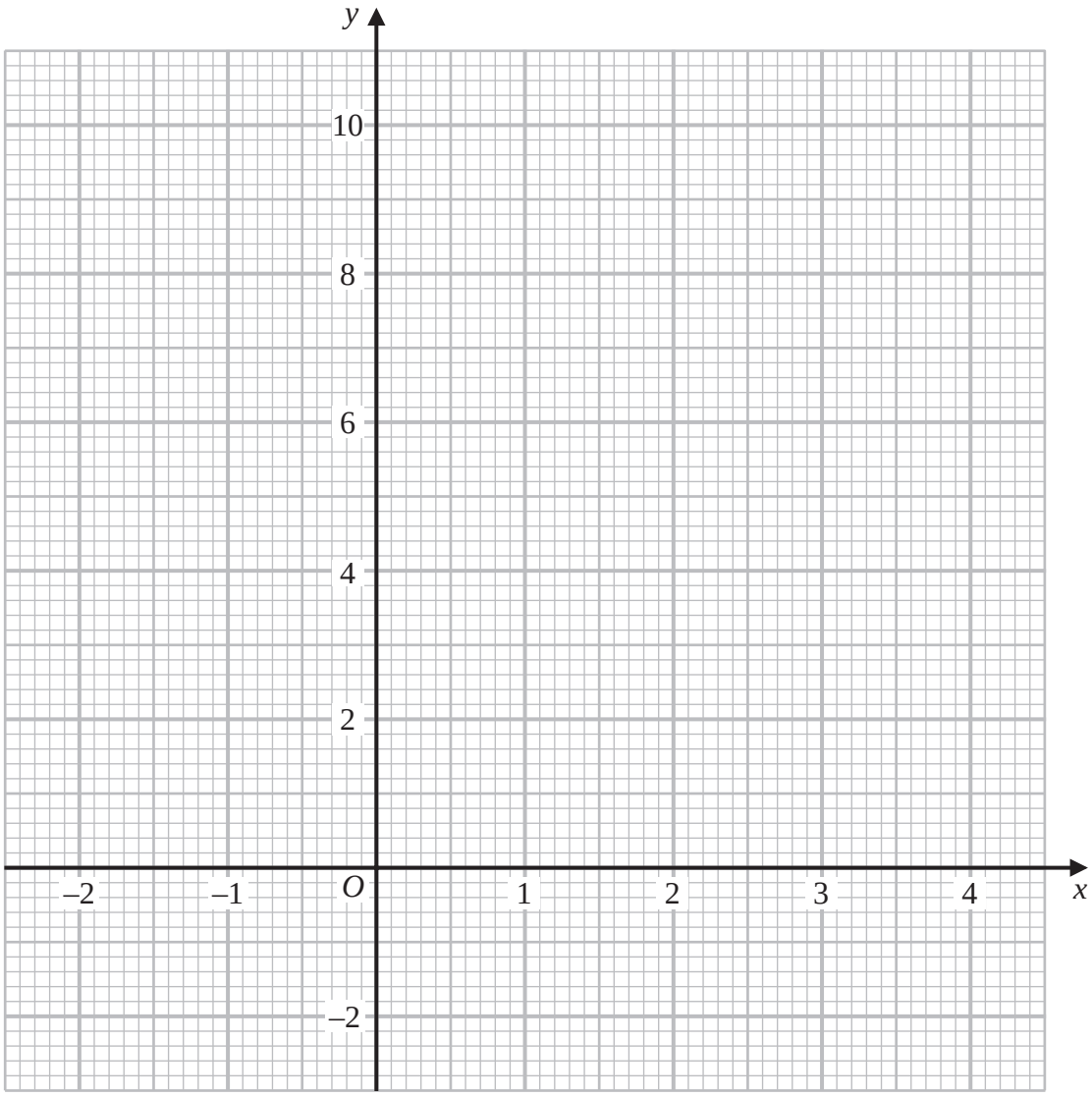
24 (a) Complete the table of values for $y = x^2 - 2x + 2$

x	–2	–1	0	1	2	3	4
y	10		2			5	

(2)

(b) On the grid, draw the graph of $y = x^2 - 2x + 2$ for values of x from –2 to 4

(2)



(c) Use your graph to find estimates of the solutions of the equation $x^2 - 2x + 2 = 4$

.....

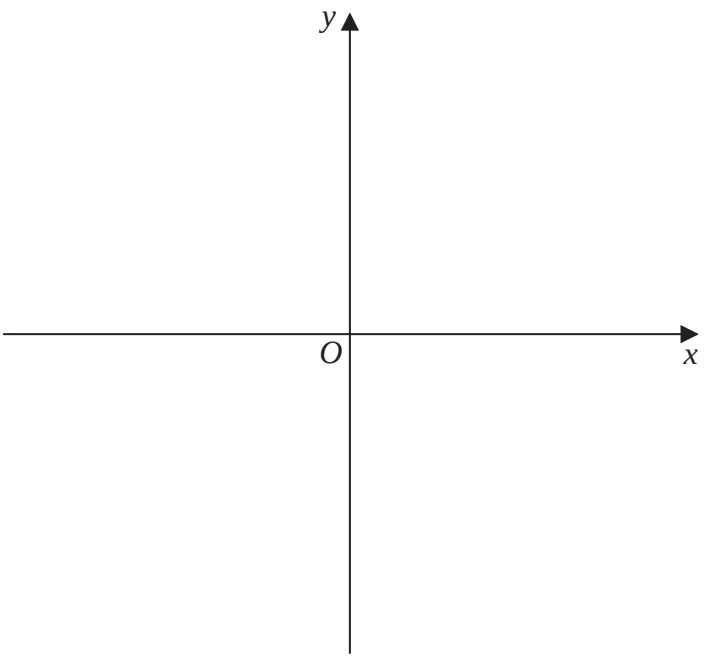
(2)

(Total for Question 24 is 6 marks)

Question 70

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28 Sketch the graph of $y = \frac{1}{x}$



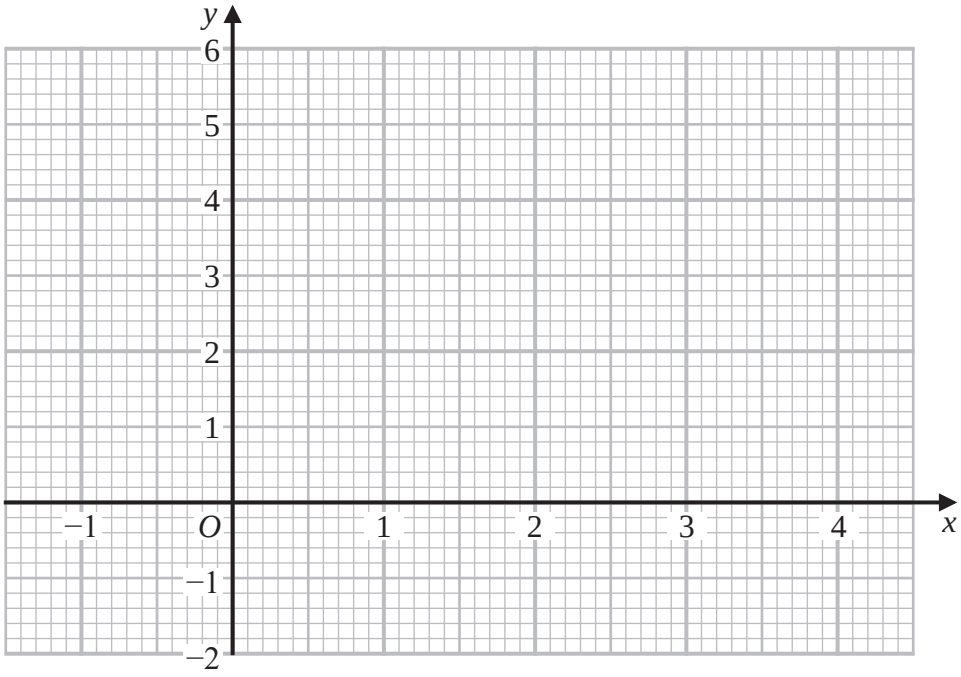
(Total for Question 28 is 2 marks)

28 (a) Complete the table of values for $y = x^2 - 3x + 1$

x	-1	0	1	2	3	4
y		1	-1			

(2)

(b) On the grid, draw the graph of $y = x^2 - 3x + 1$ for values of x from -1 to 4



(2)

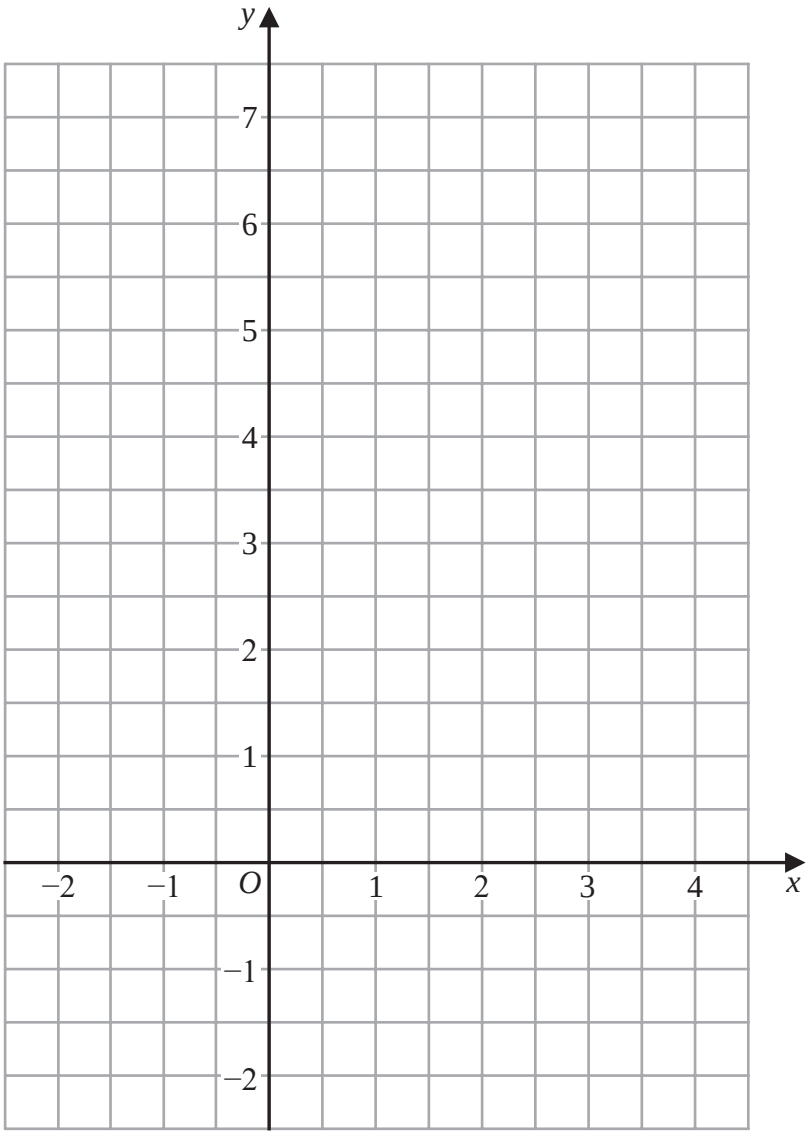
(c) Using your graph, find estimates for the solutions of the equation $x^2 - 3x + 1 = 0$

.....

(2)

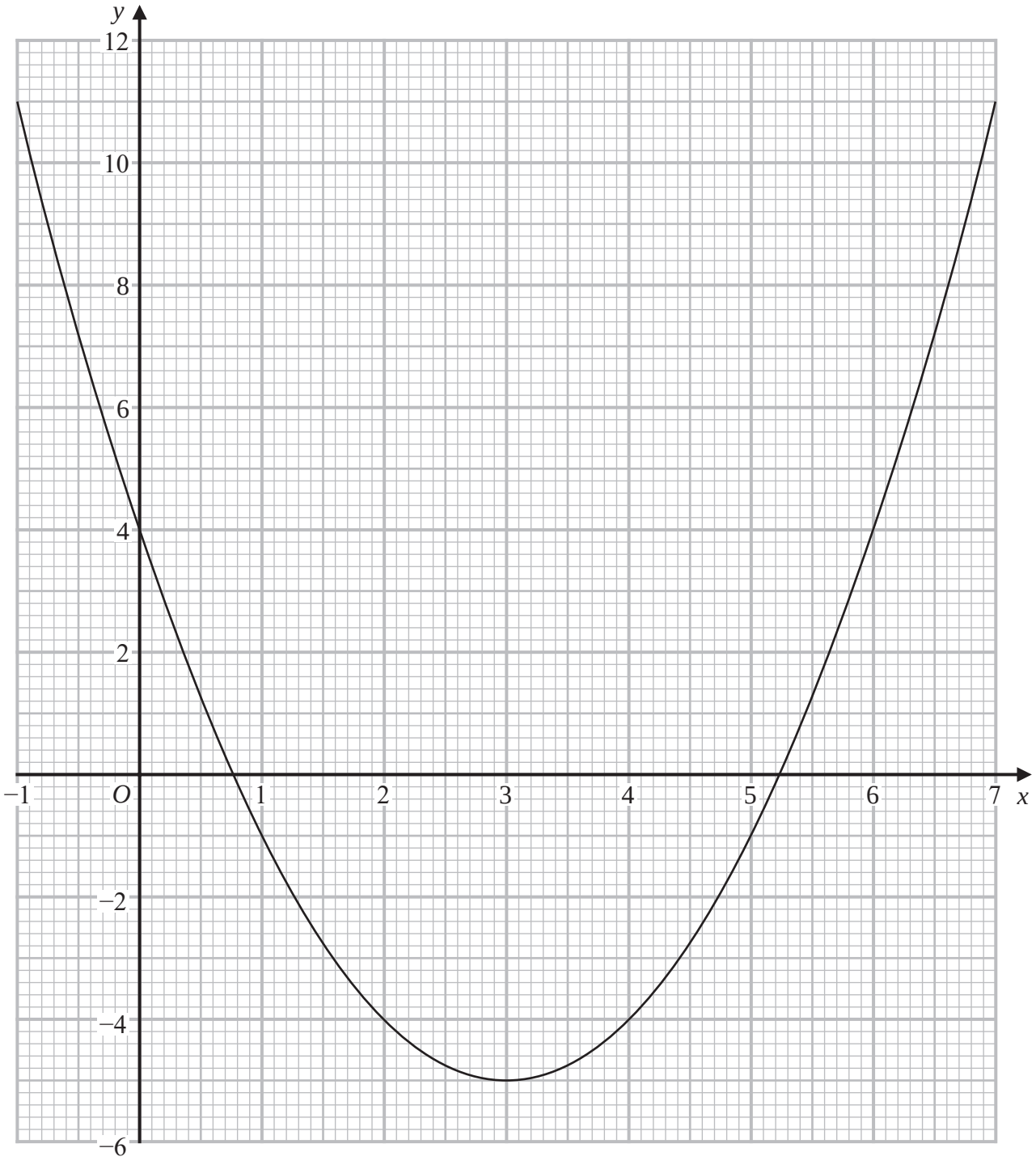
(Total for Question 28 is 6 marks)

17 On the grid below, draw the graph of $y = 4 - x$ for values of x from -2 to 4



(Total for Question 17 is 3 marks)

24 Here is the graph of $y = x^2 - 6x + 4$



(a) Write down the y intercept of the graph of $y = x^2 - 6x + 4$

.....

(1)

(b) Write down the coordinates of the turning point of the graph of $y = x^2 - 6x + 4$

(..... , ...)

(1)

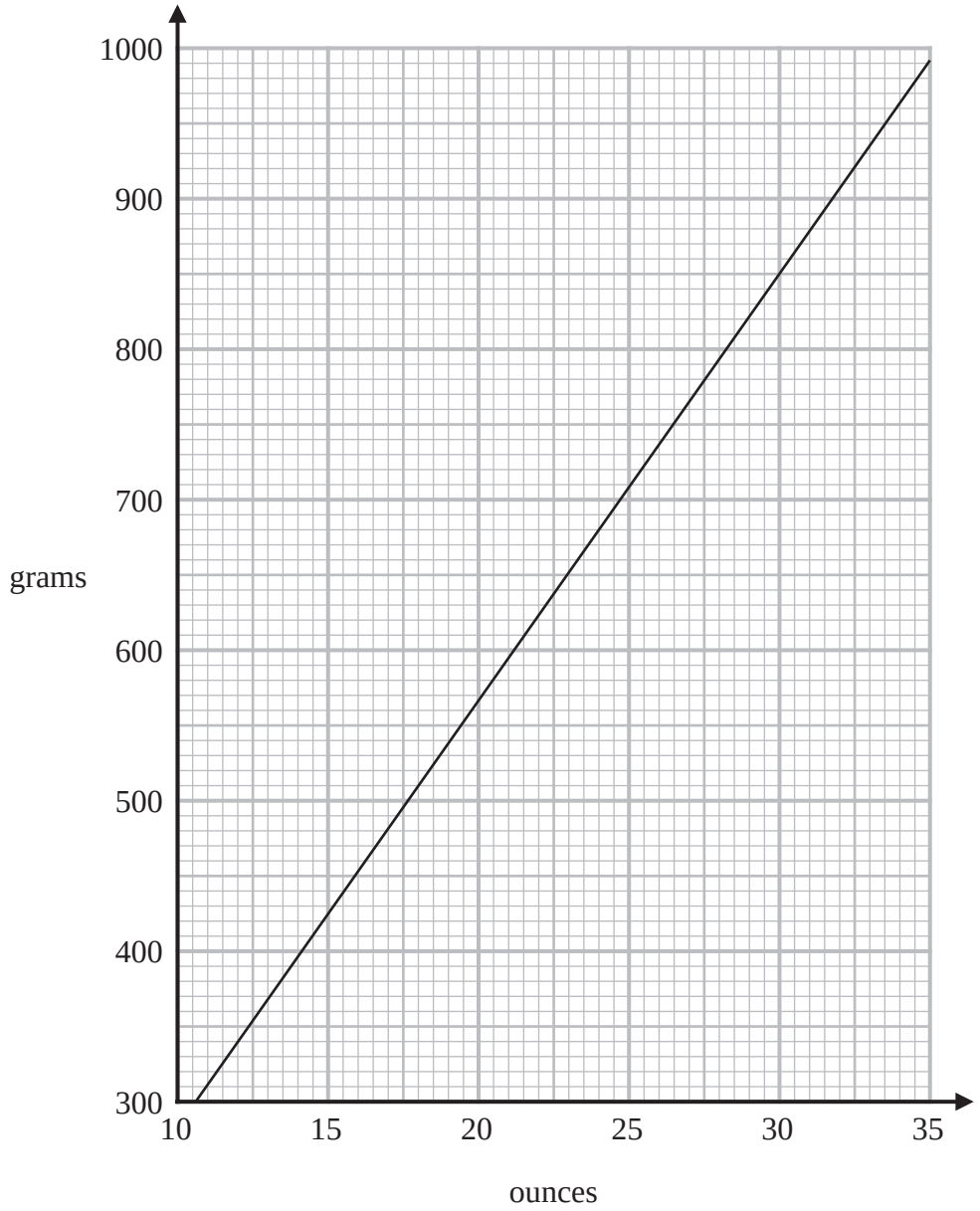
(c) Use the graph to find estimates for the roots of $x^2 - 6x + 4 = 0$

.....

(2)

(Total for Question 24 is 4 marks)

14 You can use this graph to change between ounces and grams.



(a) Change 850 grams to ounces.

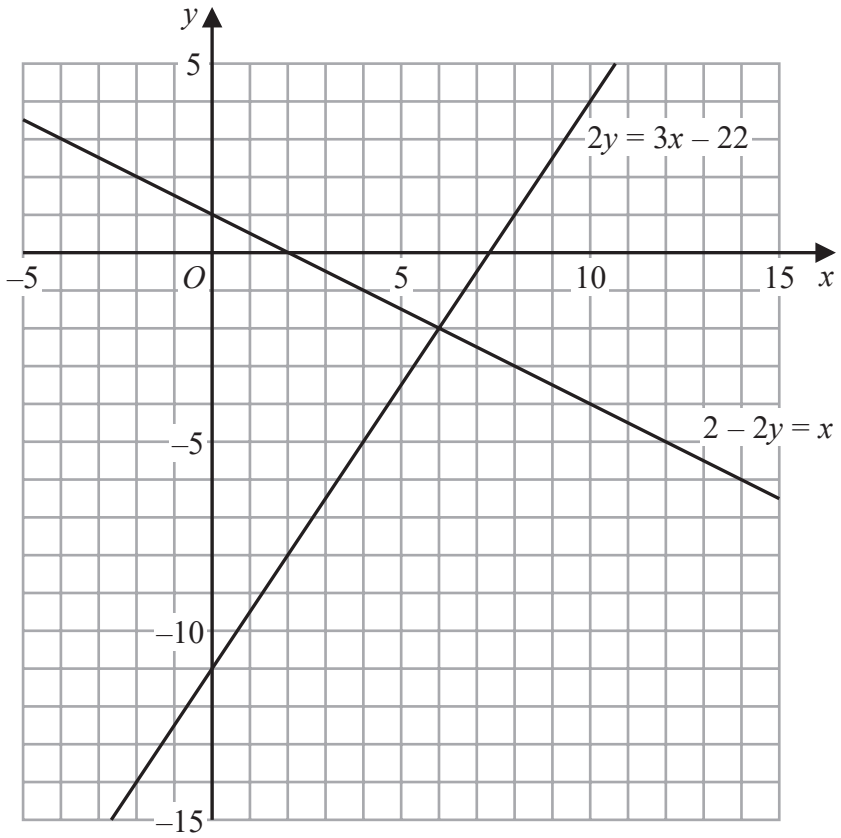
..... ounces
(1)

(b) Change 80 ounces to grams.

..... grams
(2)

(Total for Question 14 is 3 marks)

28



Use these graphs to solve the simultaneous equations

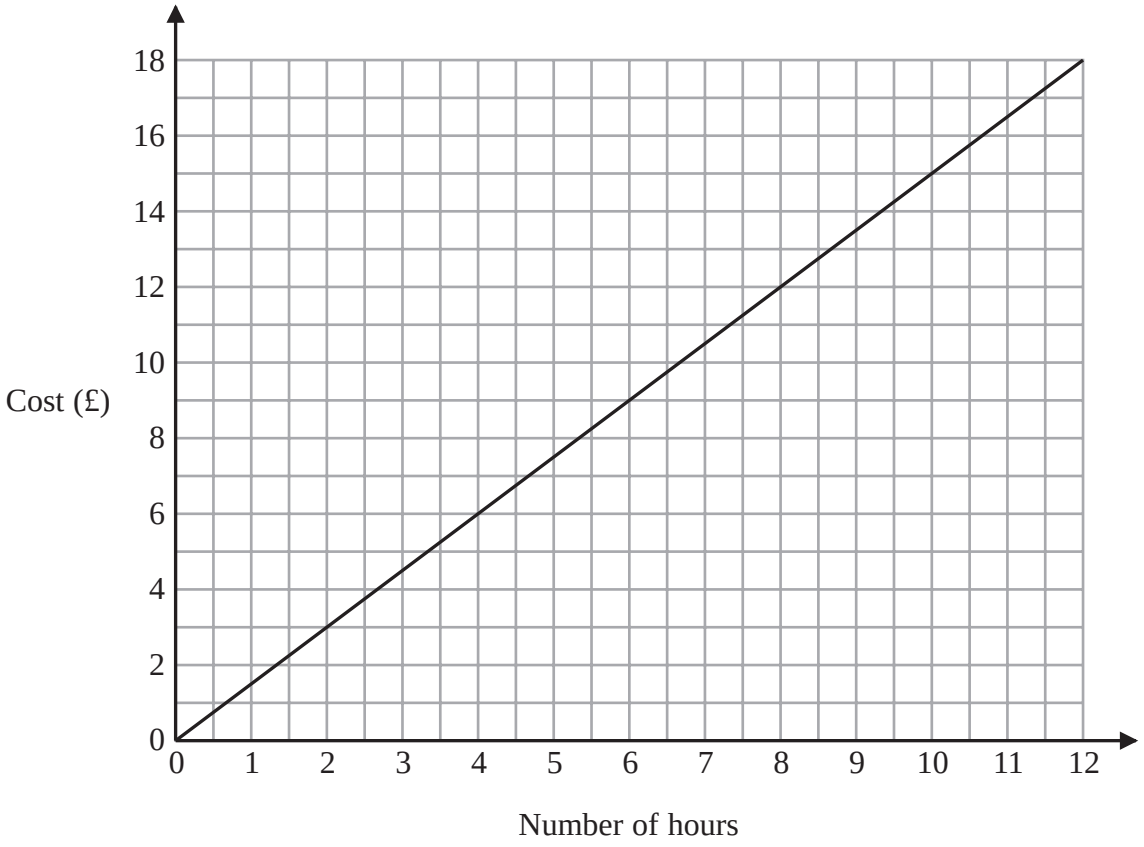
$$2 - 2y = x$$
$$2y = 3x - 22$$

$x =$ .....

$y =$ .....

(Total for Question 28 is 1 mark)

10 This graph can be used to find the cost of parking a car in a car park for up to 12 hours.



(a) Use the graph to find the cost of parking a car for 4 hours.

£.....

(1)

Justin drives into the car park at 0800 in the morning.
When he drives out of the car park he has to pay £9

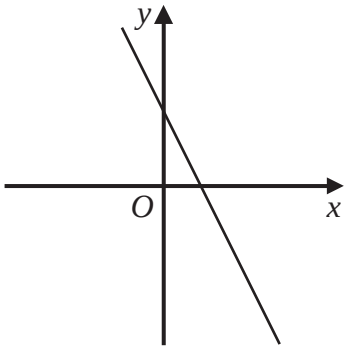
(b) At what time does Justin drive out of the car park?

.....

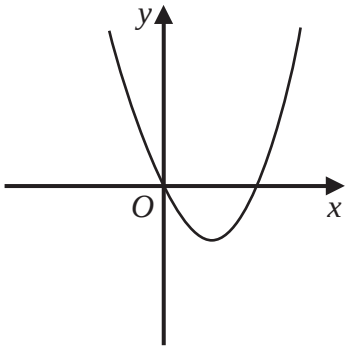
(3)

(Total for Question 10 is 4 marks)

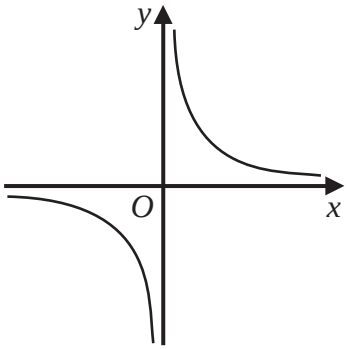
28 Here are five graphs.



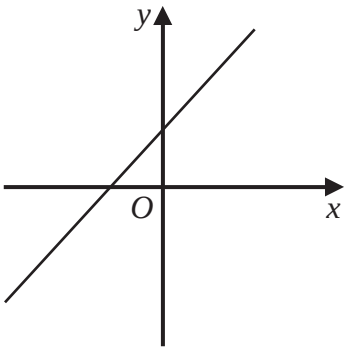
A



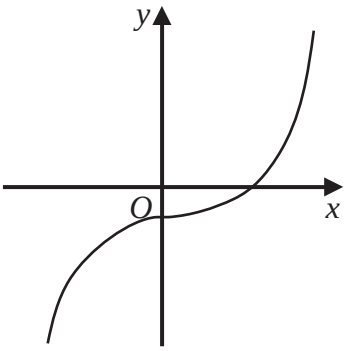
B



C



D



E

The table shows the equations of these graphs.

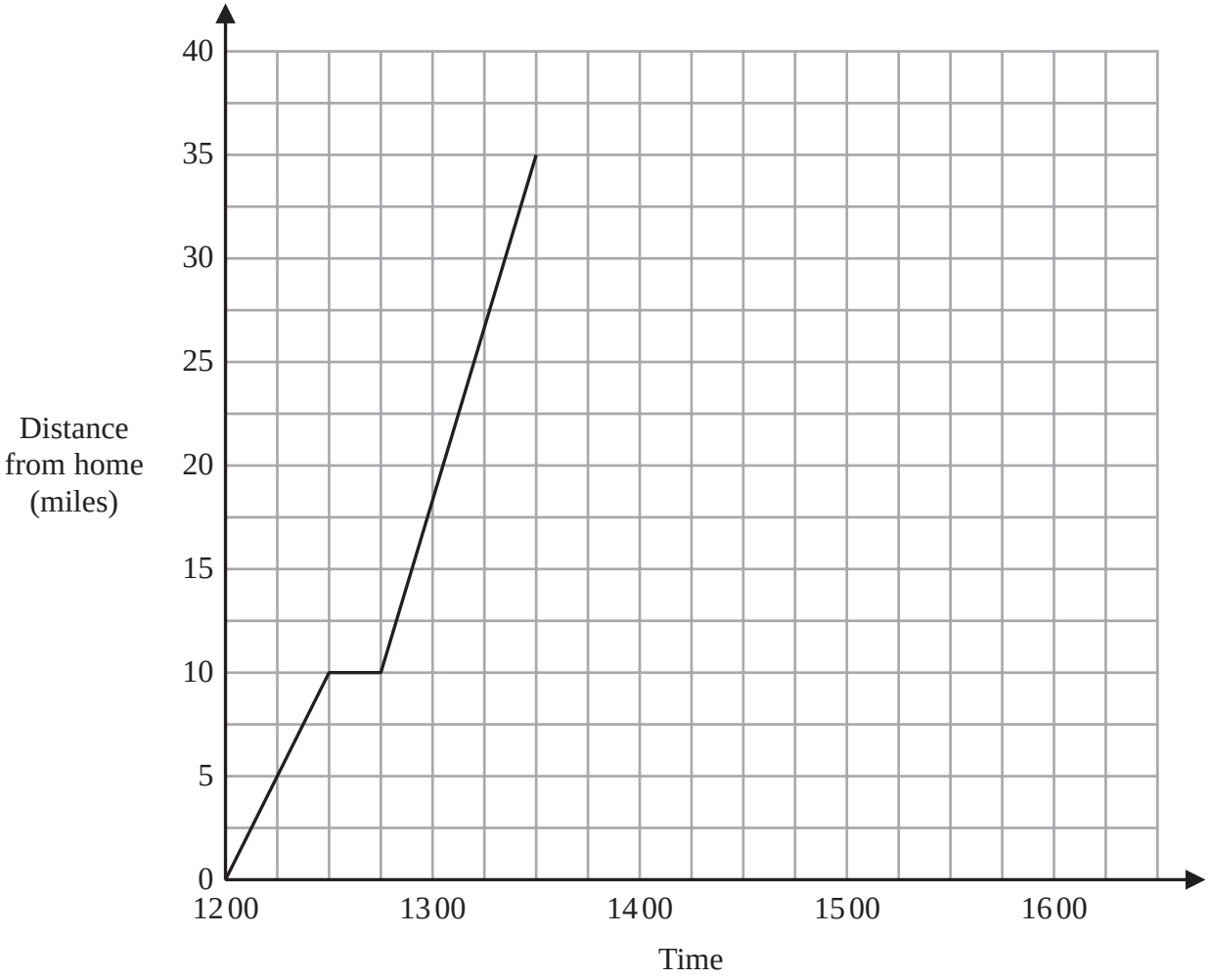
Equation	Graph
$y = x^2 - 4x$	
$y = x + 3$	
$y = x^3 - 2$	
$y = \frac{1}{x}$	
$y = 5 - 2x$	

Match the letter of each graph with its equation.

(Total for Question 28 is 3 marks)

13 Rowena drove from her home to a beach.

Here is a travel graph for her journey.



Rowena stopped at a cafe on her way to the beach.

(a) (i) How many minutes did Rowena take to drive to the cafe?

..... minutes
(1)

(ii) Write down the distance from Rowena's home to the cafe.

..... miles
(1)

Rowena stayed at the beach for $1\frac{1}{2}$ hours.

She then drove home without stopping.
Rowena arrived home at 16 00

(b) On the grid, complete the travel graph.

(2)

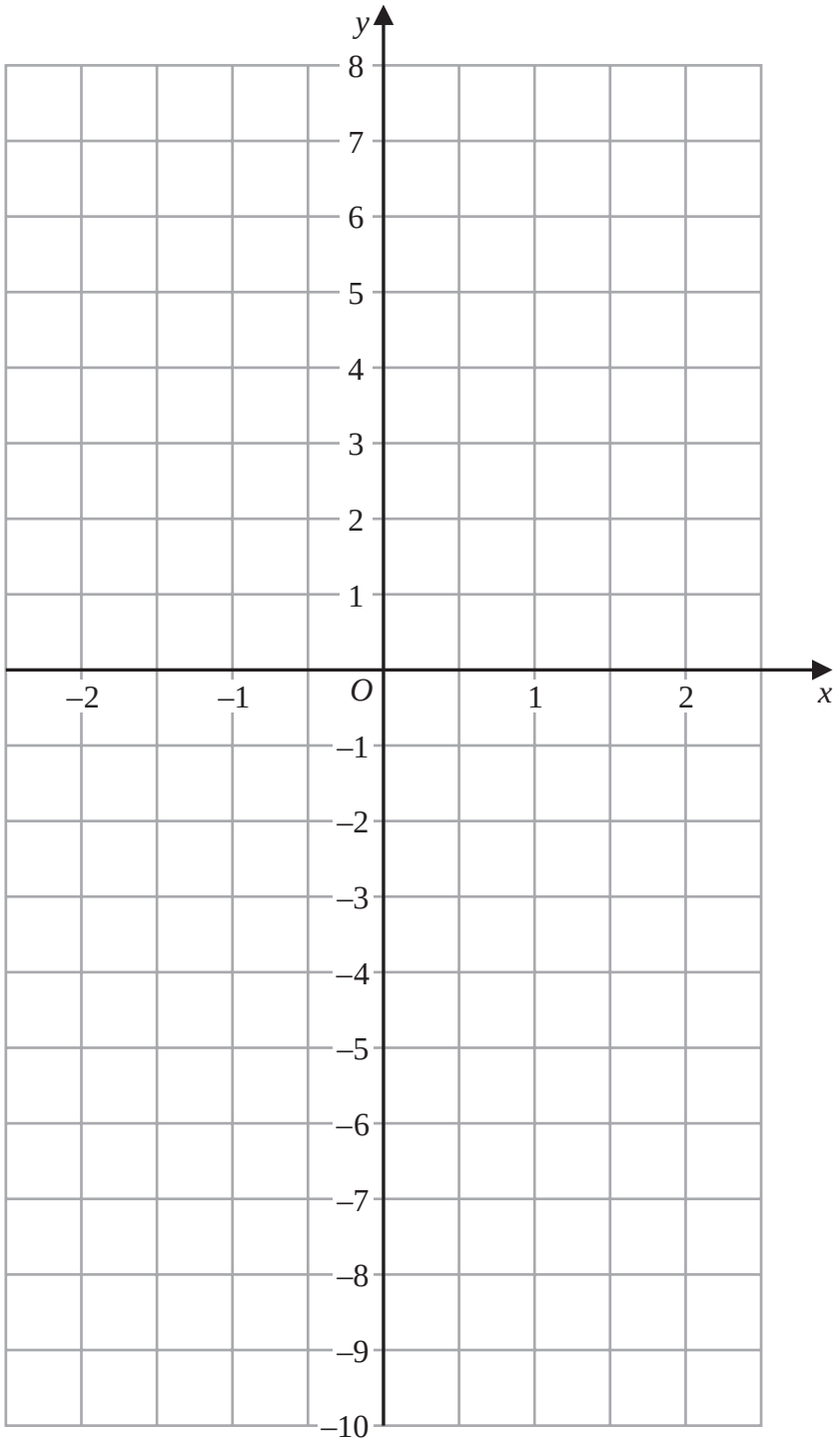
(c) Work out the average speed for the journey from the beach to Rowena's home.

..... miles per hour

(1)

(Total for Question 13 is 5 marks)

14 On the grid, draw the graph of $y = 4x - 1$ for values of x from –2 to 2



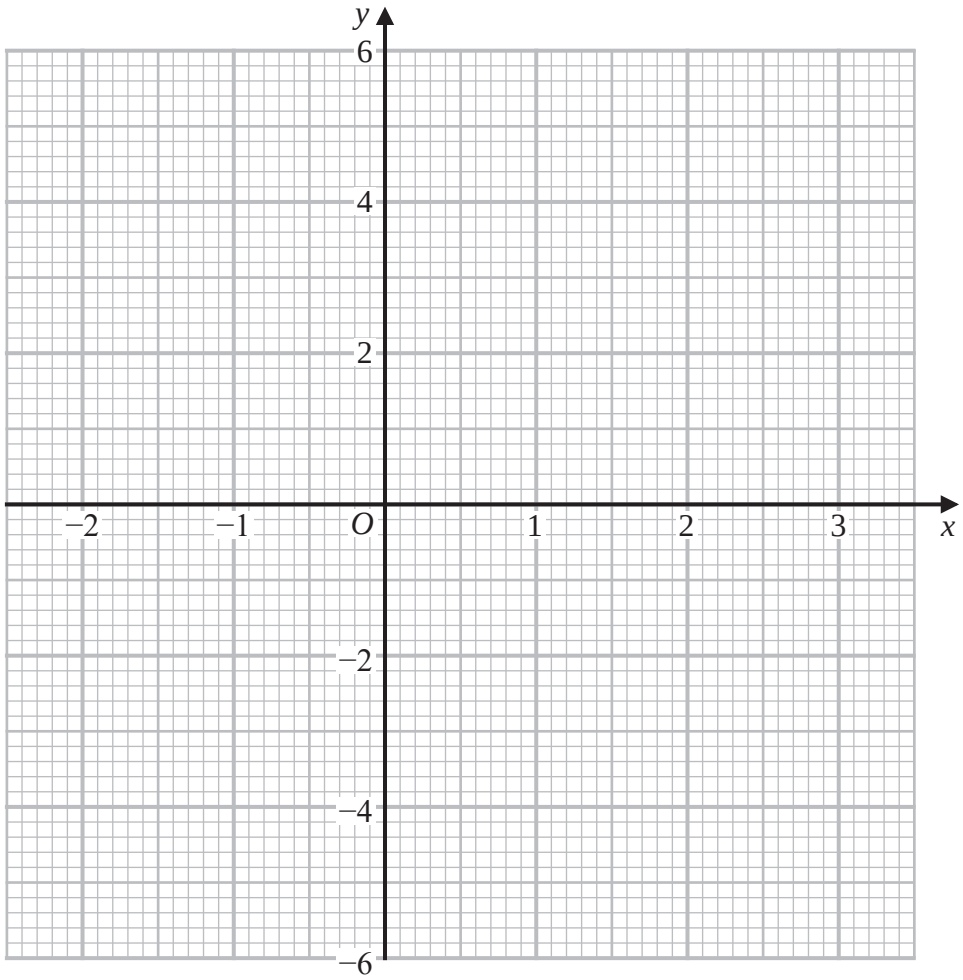
(Total for Question 14 is 3 marks)

20 (a) Complete the table of values for $y = x^2 - x - 2$

x	−2	−1	0	1	2	3
y	4			−2		

(2)

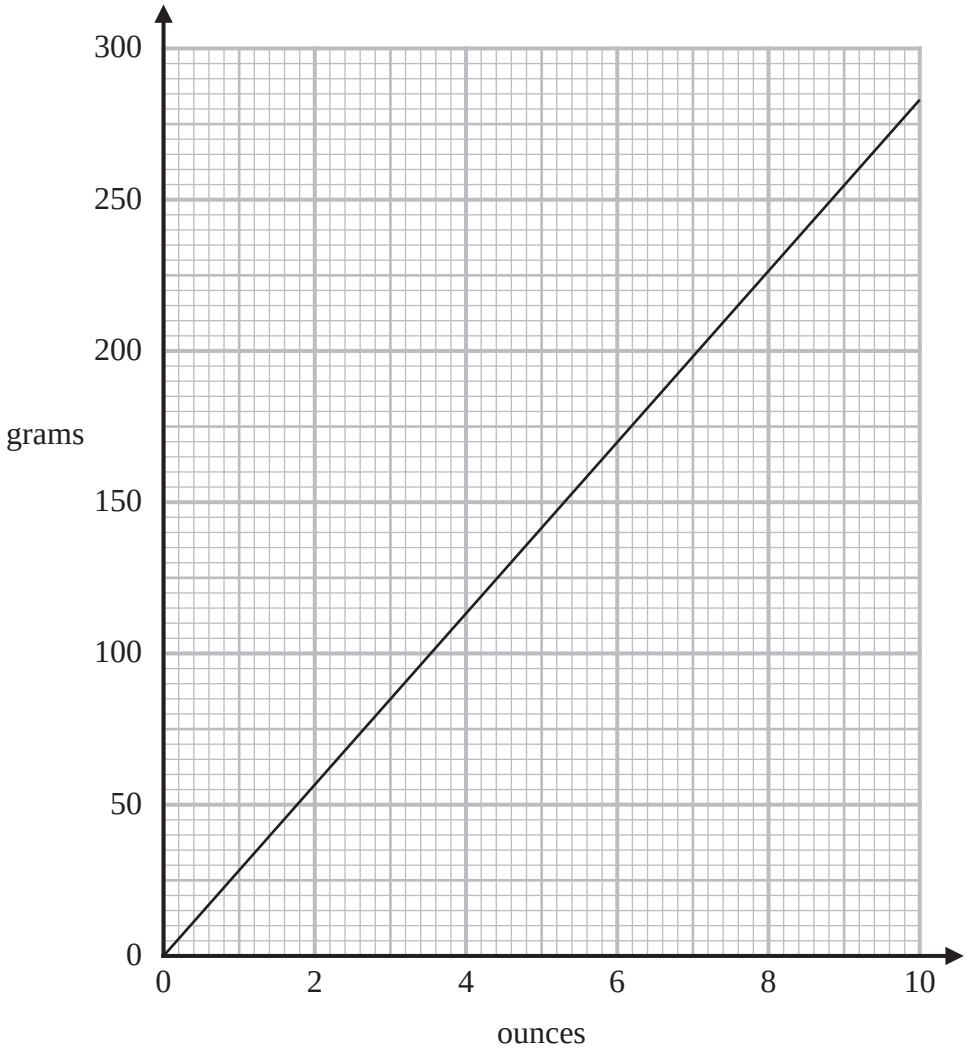
(b) On the grid, draw the graph of $y = x^2 - x - 2$ for values of x from −2 to 3



(2)

(Total for Question 20 is 4 marks)

16 You can use this graph to change between ounces and grams.



(a) Change 6 ounces to grams.

..... grams

(1)

(b) Change 1 kg to ounces.

..... ounces

(2)

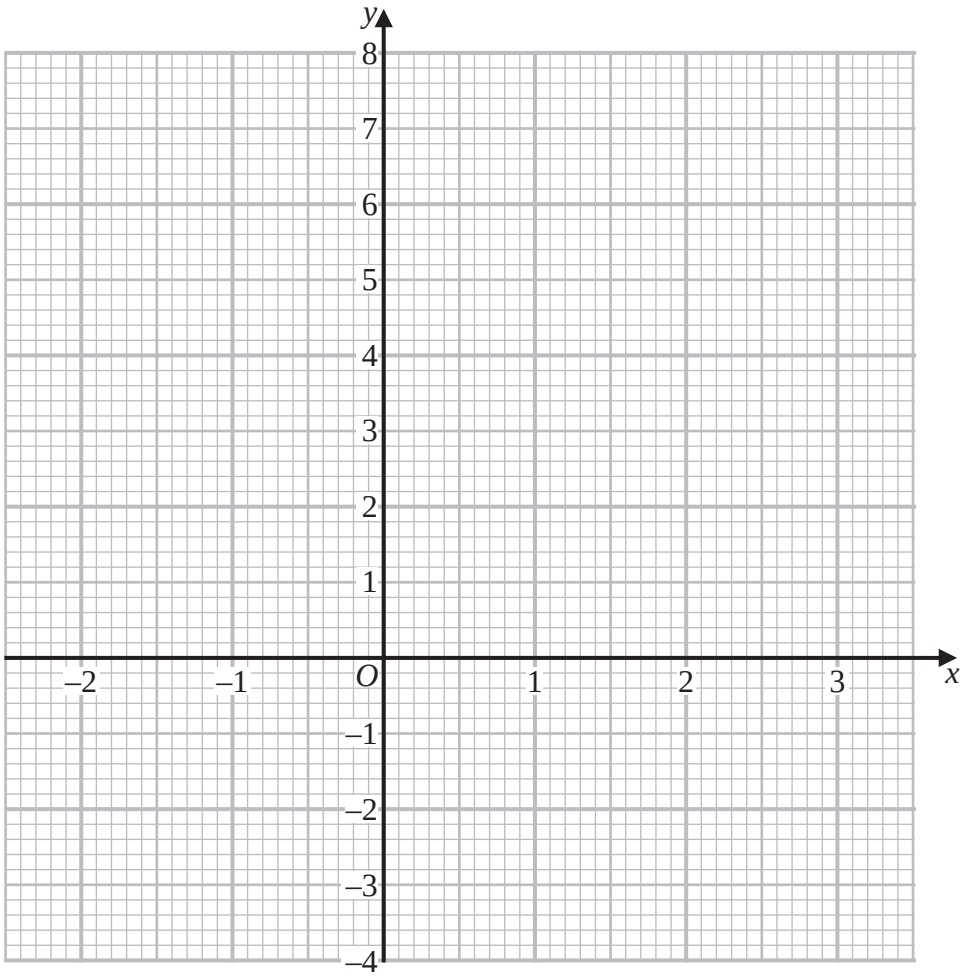
(Total for Question 16 is 3 marks)

24 (a) Complete the table of values for $y = x^2 - x$

x	–2	–1	0	1	2	3
y	6		0		2	

(2)

(b) On the grid, draw the graph of $y = x^2 - x$ for values of x from –2 to 3



(2)

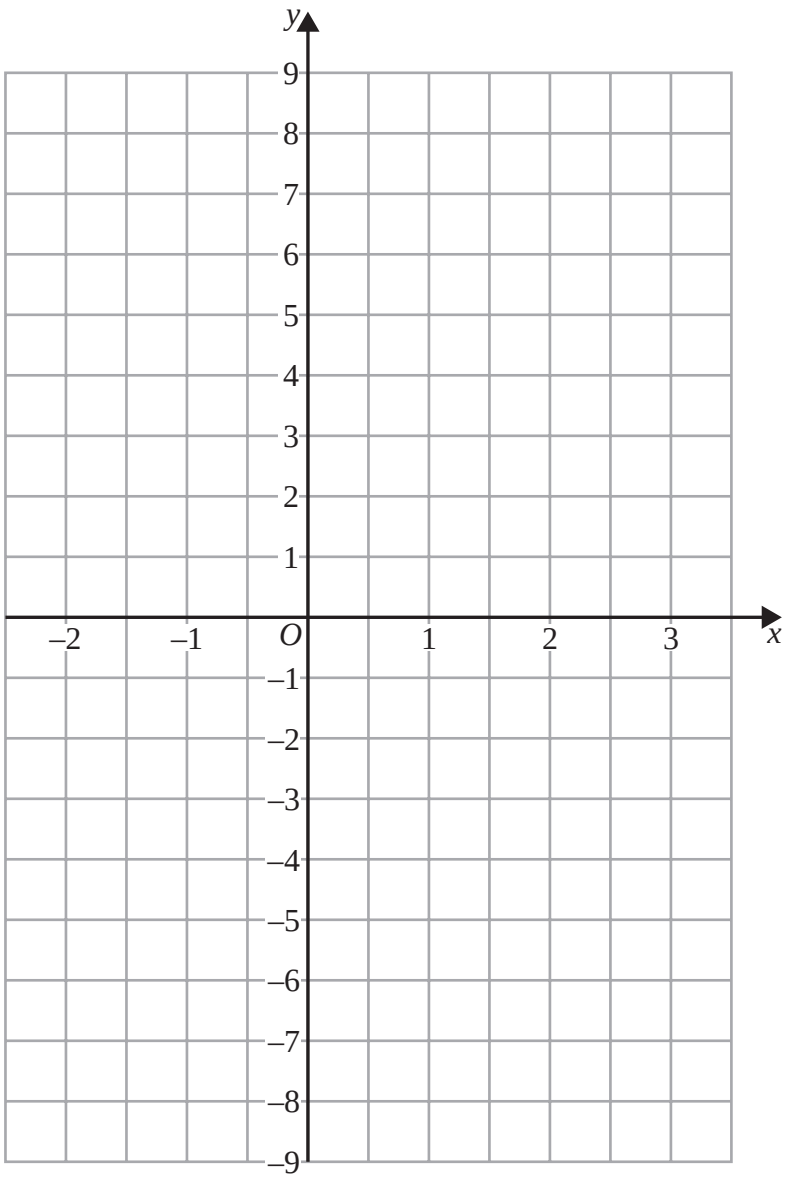
(c) Use your graph to find estimates for the solutions of the equation $x^2 - x = 4$

.....

(2)

(Total for Question 24 is 6 marks)

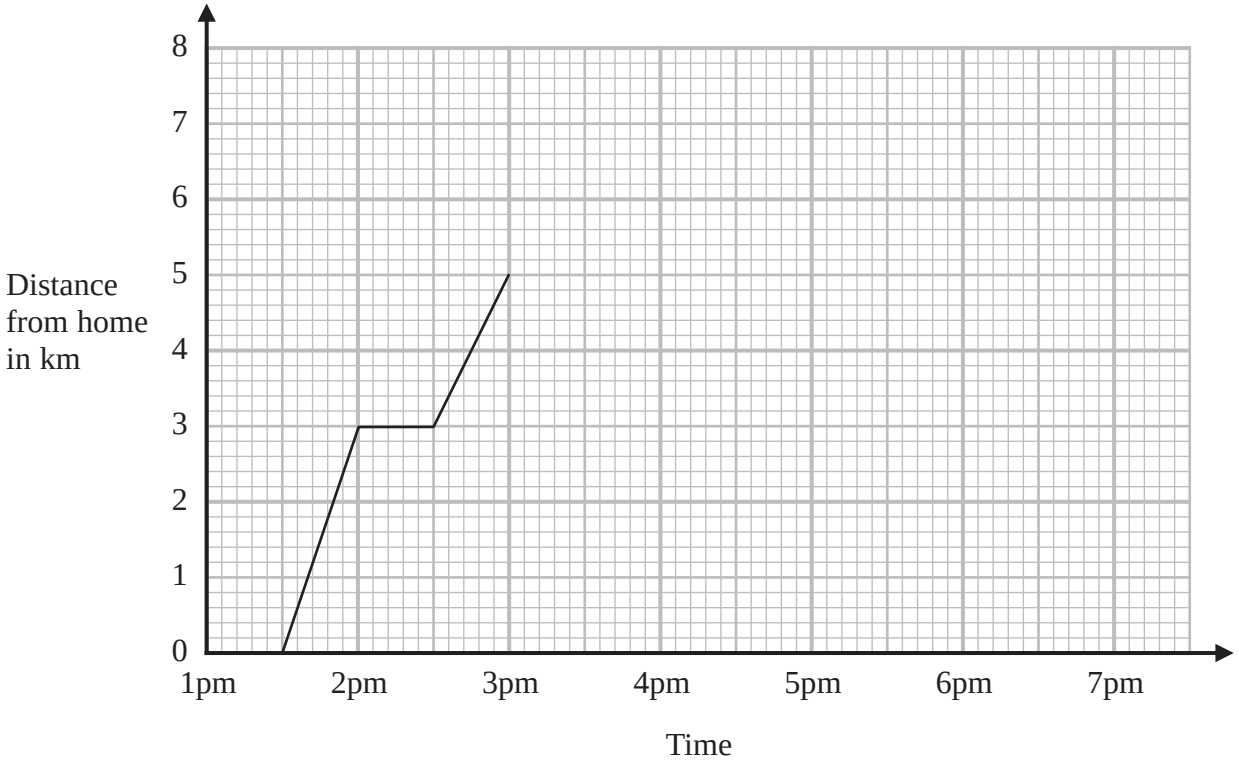
19 On the grid below, draw the graph of $y = 3x - 2$ for values of x from –2 to 3



(Total for Question 19 is 3 marks)

14 Amy walked from her home to the skate park.

The travel graph of Amy's walk to the skate park is shown below.



On the way to the skate park Amy stopped at her friend's house.

(a) How far is it from her friend's house to the skate park?

..... km

(1)

Amy stayed at the skate park for 2 hours.
Then she walked home at a steady speed.
She took 1 hour 30 minutes to walk home.

(b) Complete the travel graph.

(2)

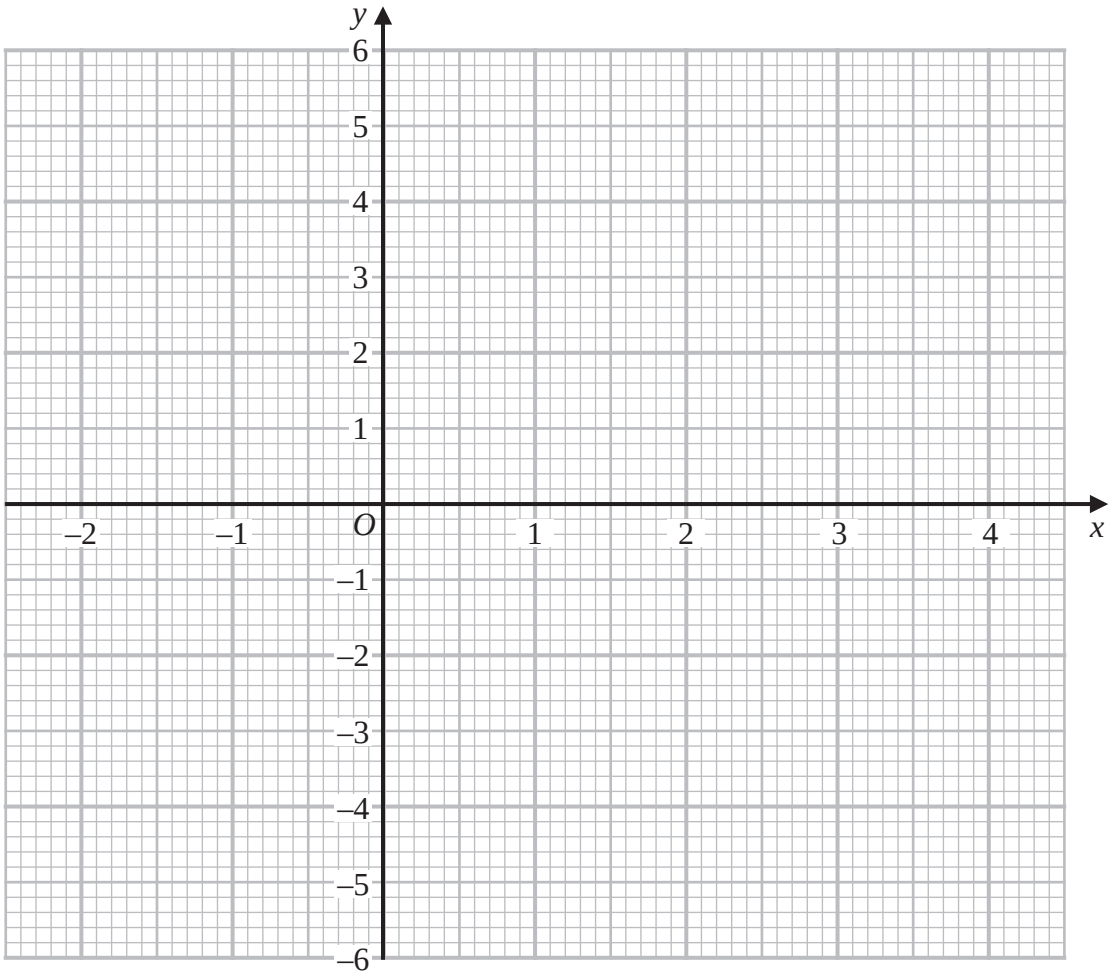
(Total for Question 14 is 3 marks)

24 (a) Complete the table of values for $y = x^2 - 2x - 3$

x	–2	–1	0	1	2	3	4
y		0			–3		

(2)

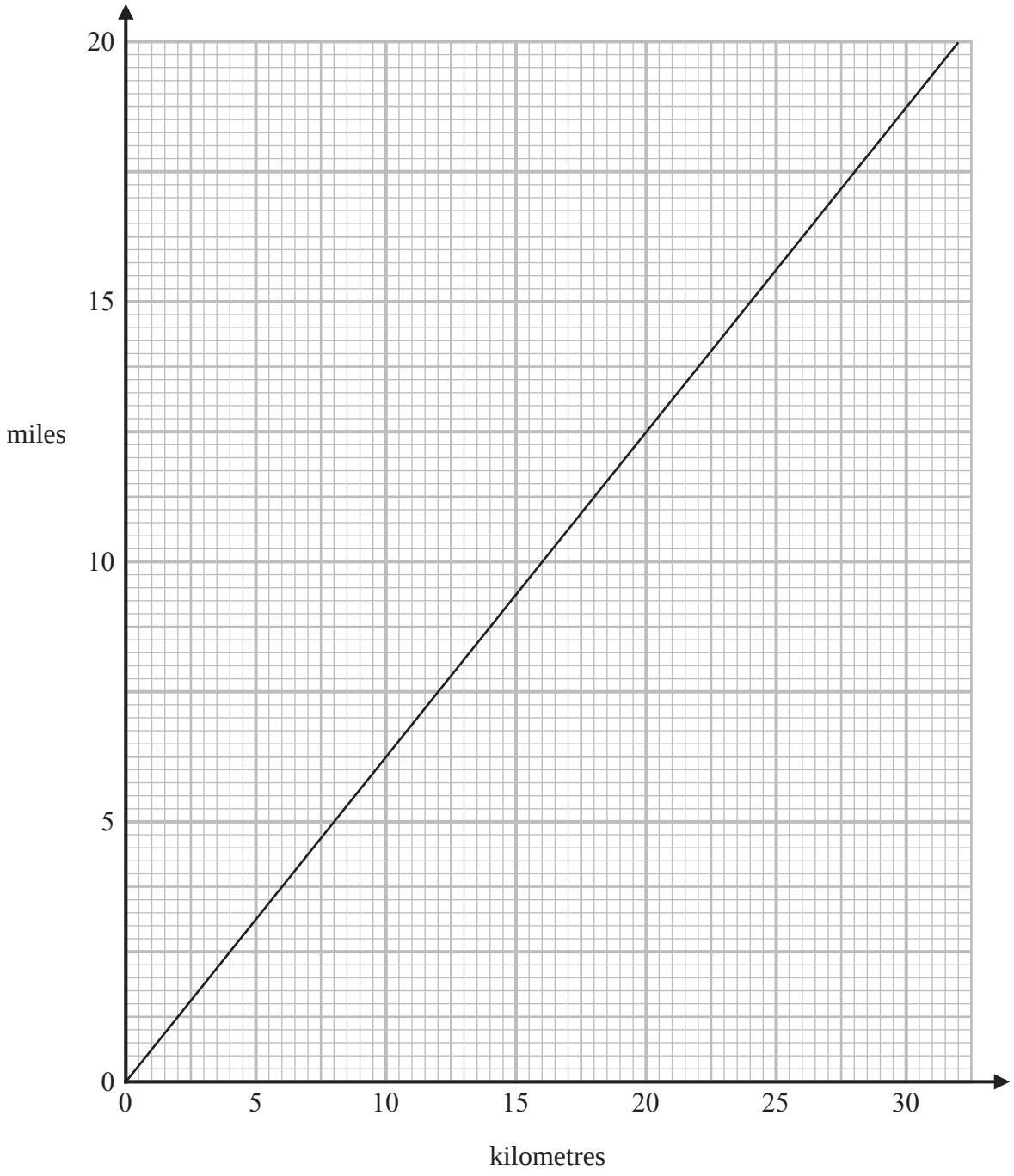
(b) On the grid, draw the graph of $y = x^2 - 2x - 3$ for values of x from –2 to 4



(2)

(Total for Question 24 is 4 marks)

11 You can use this graph to change between miles and kilometres.



(a) Change 10 miles into kilometres.

..... kilometres
(1)

Rob drives 17 miles from Bridlington to Scarborough.
He then drives 50 kilometres from Scarborough to Staithes.

(b) What is the total distance Rob drives?
Give your answer in miles.

..... miles
(3)

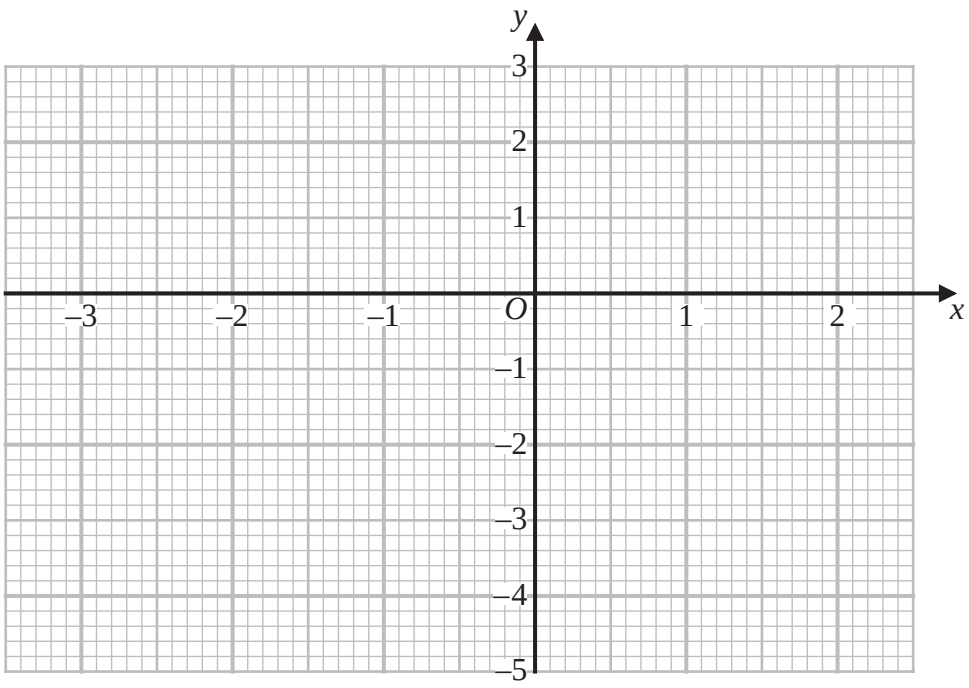
(Total for Question 11 is 4 marks)

21 (a) Complete the table of values for $y = x^2 + x - 4$

x	–3	–2	–1	0	1	2
y	2		–4			

(2)

(b) On the grid, draw the graph of $y = x^2 + x - 4$ for values of x from –3 to 2



(2)

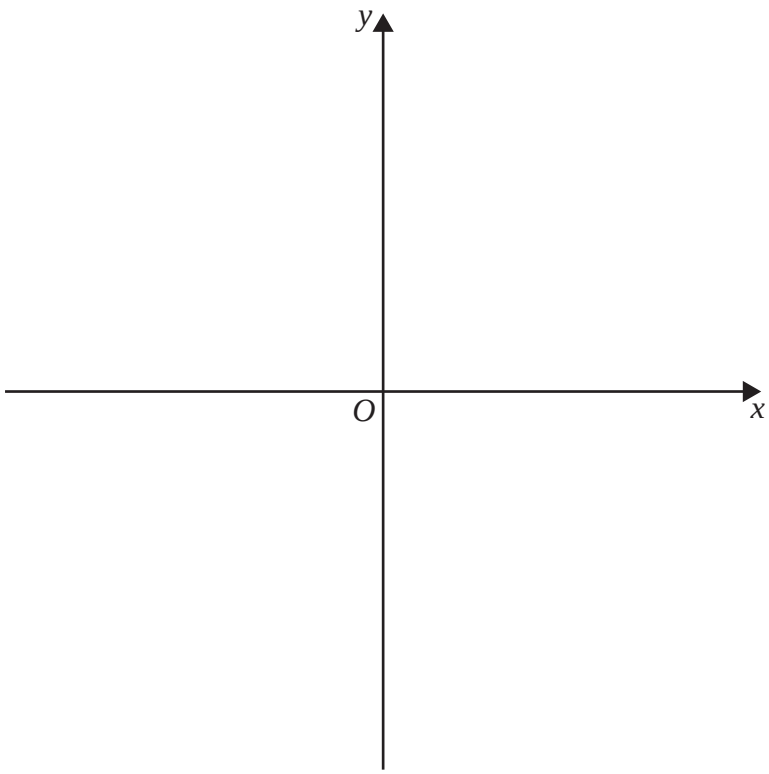
(c) Write down the coordinates of the turning point of the graph of $y = x^2 + x - 4$

(..... , ...)

(1)

(Total for Question 21 is 5 marks)

28 Sketch the graph of $y = x^2 + 2$



(Total for Question 28 is 2 marks)