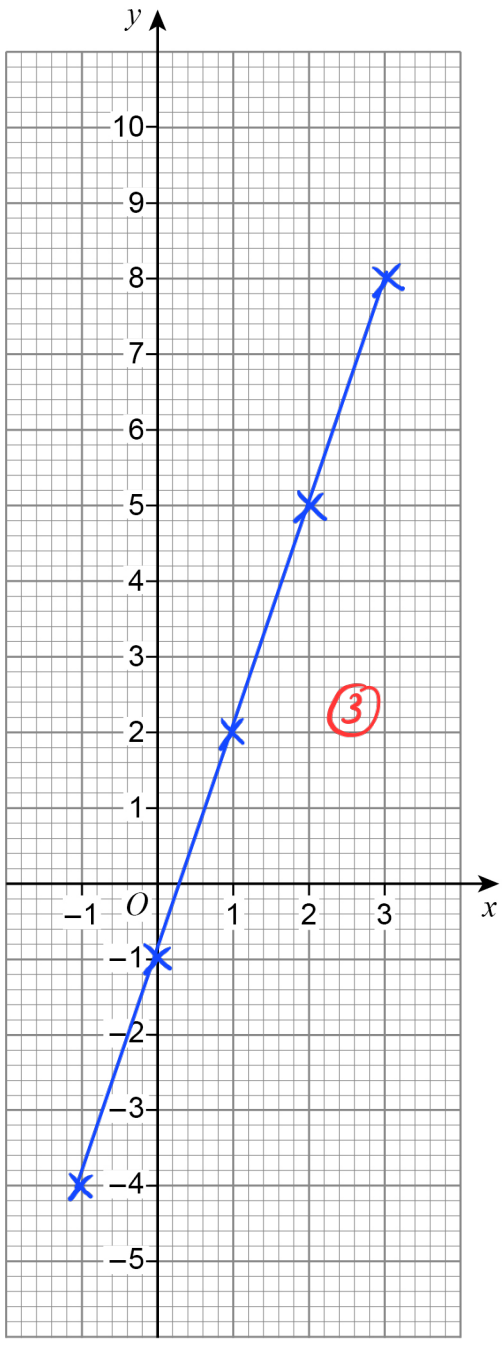
1 Draw the graph of $y = 3x - 1$ for values of x from –1 to 3

[3 marks]

x	-1	0	1	2	3
y	-4	-1	2	5	8

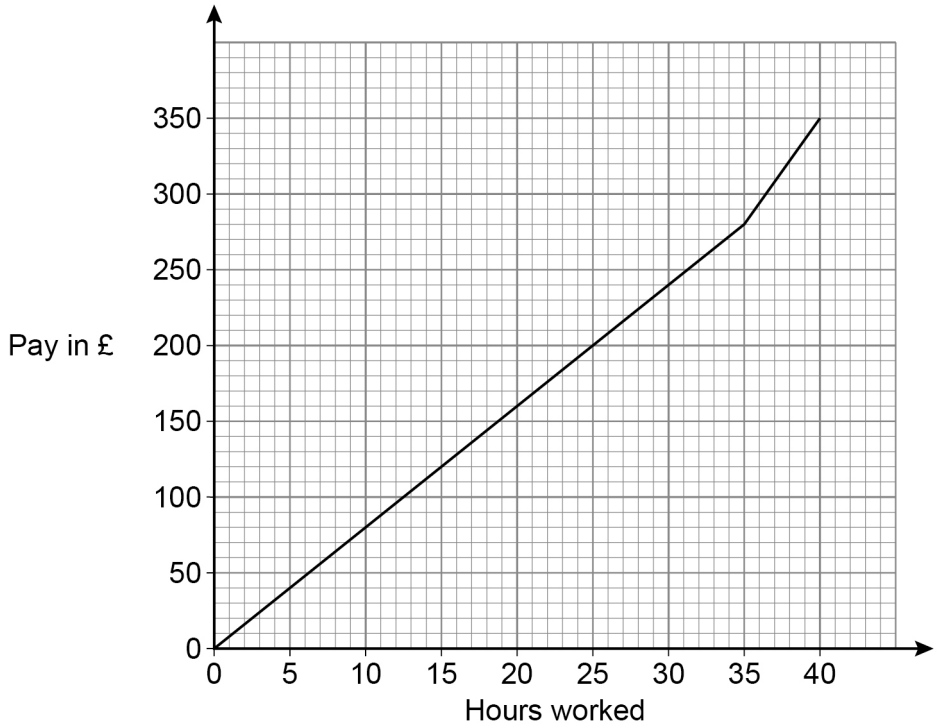


2 The graph shows how much Molly is paid for working for up to 40 hours.

She receives

a basic rate of pay for the first 35 hours worked

a higher rate of pay for the next 5 hours worked.



Work out the difference between the higher rate of pay and the basic rate of pay.

Give your answer in £ per hour.

[3 marks]

Basic : $\frac{£280}{35\,h}$ = £8 per hour (1)

Higher : $\frac{£(350-280)}{5\,h}$ = $\frac{£70}{5h}$ = £14 per hour (1)

14 − 8 = 6

Answer £ 6 (1) per hour

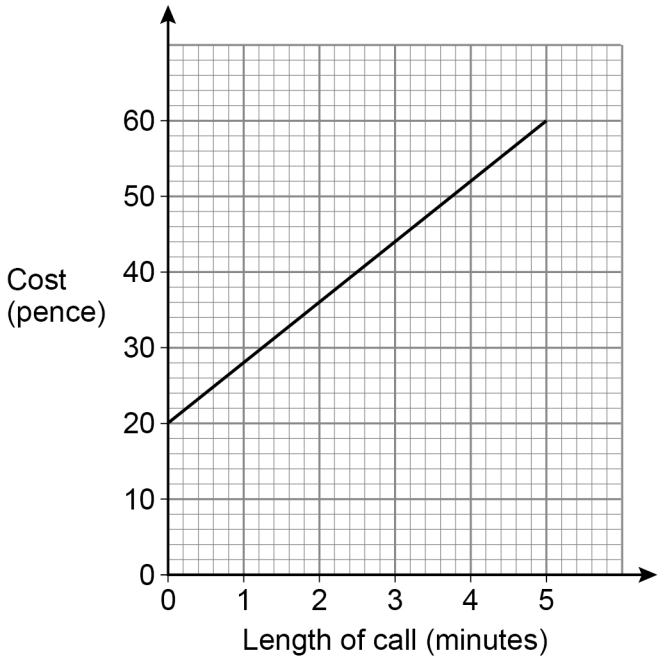
3 The cost of making a phone call is

a fixed charge

and

a charge per minute.

The costs of phone calls up to 5 minutes are represented by the graph.



3 (a) Write down the fixed charge.

[1 mark]

Answer 20 (1) pence

3 (b) Work out the charge per minute.

[2 marks]

$\frac{(60-20)}{5} = \frac{40}{5} = 8$ p/min (1) (1)

Answer 8 pence

3 (c) Work out the cost of a phone call lasting 7 minutes.

[2 marks]

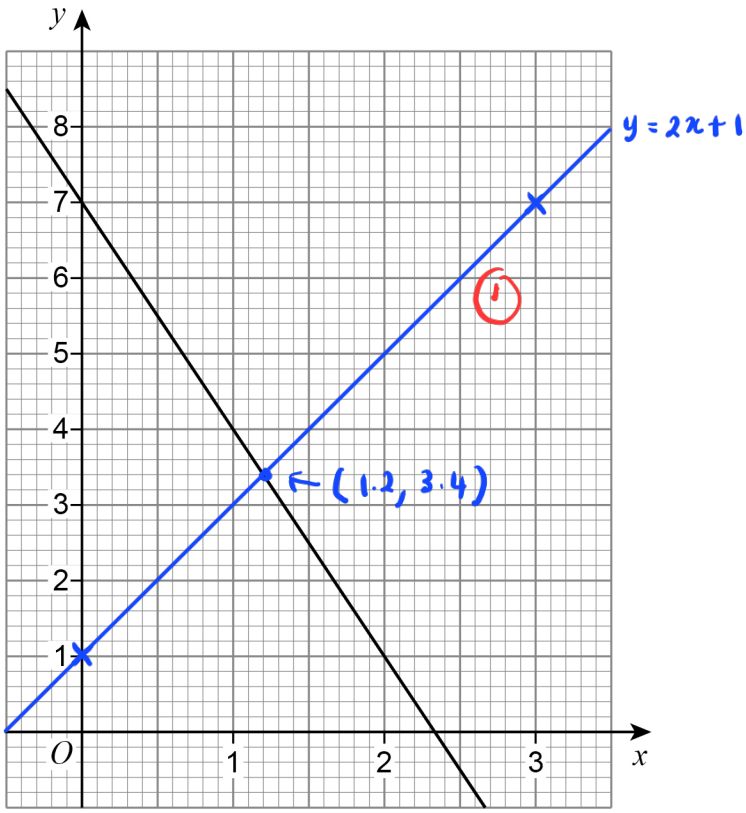
20 p + (8 x 7) p (1)

= 20 + 56

= 76 (1)

Answer 76 pence

4 Here is the graph of $y = 7 - 3x$



Draw the graph of $y = 2x + 1$ on the grid

and then

work out an approximate solution to $7 - 3x = 2x + 1$

[3 marks]

when $x = 0$, $y = 1$ $(0, 1)$ (1)

when $x = 3$, $y = 7$ $(3, 7)$

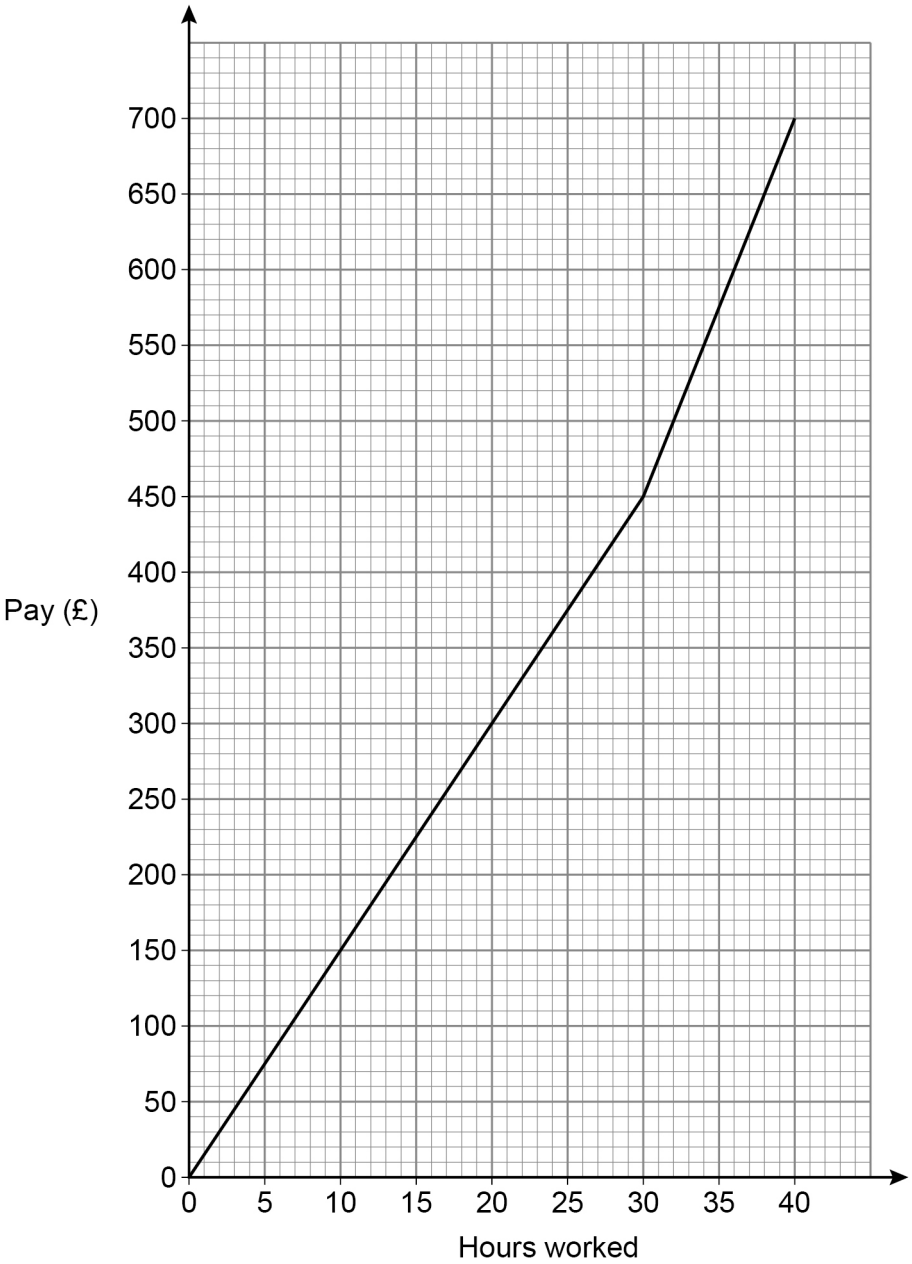
Answer 1.2 (1)

5 In a week, Samir is paid

a basic hourly rate for the first 30 hours worked

an overtime hourly rate for any extra hours worked.

The graph shows his pay for working up to 40 hours in a week.



Work out the ratio basic hourly rate : overtime hourly rate

Give your answer in its simplest form.

[3 marks]

Basic hourly rate $= \frac{450}{30} = 15$ (1)

Overtime hourly rate $= \frac{(700 - 450)}{40 - 30} = \frac{250}{10} = 25$ (1)

ratio $= 15 : 25$

$\div 5$

$= 3 : 5$

Answer 3 : 5 (1)

6

x	0	2	4	6	8	10
y	3	7	11	15	19	23

+2 +2 +2 (for the x-values) +4 +4 +4 (for the y-values)

The x-values in the table make a linear sequence.

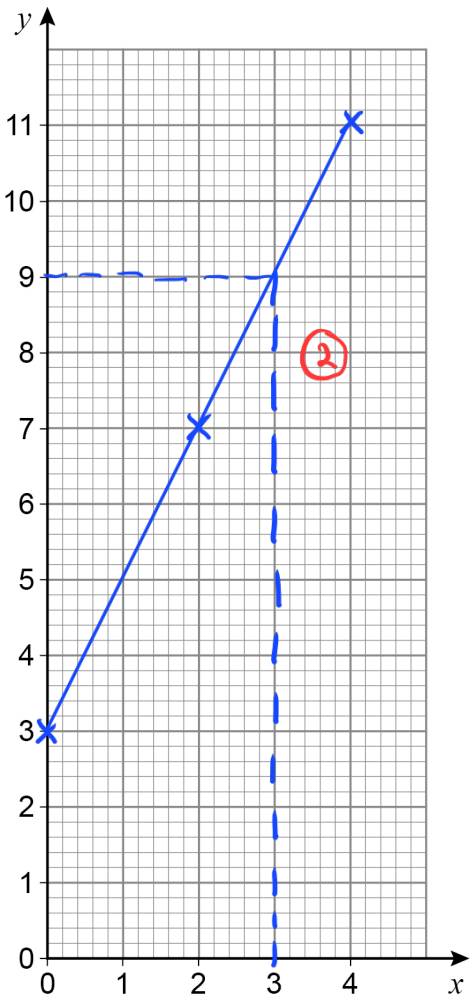
The y-values in the table make a different linear sequence.

6 (a) Complete the table.

[2 marks]

6 (b) Draw a straight line passing through the points (0, 3), (2, 7) and (4, 11)

[2 marks]



6 (c) Use the graph to work out the value of y when $x = 3$

[1 mark]

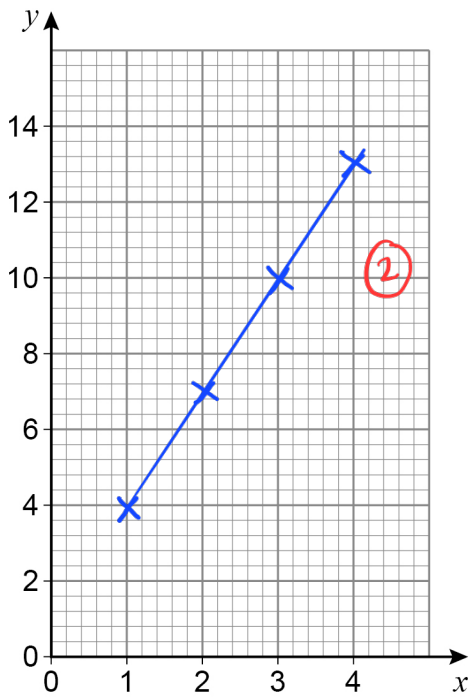
$y =$ 9 (1)

7 Here is a table of values for the equation $y = 3x + 1$

x	1	2	3	4
y	4	7	10	13

7 (a) Draw the graph of $y = 3x + 1$ for values of x from 1 to 4

[2 marks]



7 (b) Work out the value of y when $x = 2.5$

[2 marks]

$y = 3(2.5) + 1 = 8.5$ ✓1 ✓1

$y =$ 8.5