**1** $v = 3 - 5t$

Work out the value of $v$ when $t = 4$.

$v =$ ..... [1]

[Total: 1]

**2** $s = \frac{1}{2}at^2$

Work out the value of $s$ when $a = 0.9$ and $t = 4$.

$s =$ ..... [1]

[Total: 1]

**3** The formula for changing a temperature measured in Celsius (°C) to Fahrenheit (°F) is

$$F = \frac{9C}{5} + 32.$$

Use this formula to change 65°C to Fahrenheit.

.....°F [2]

[Total: 2]

**4** $y = mx + c$

Find the value of $y$ when $m = -3$, $x = -2$ and $c = -8$.

$y =$ ..... [2]

[Total: 2]

**5** $T = 3a^2b$

Find the value of $T$ when $a = 4$ and $b = 5$.

$T =$ ..... [2]

[Total: 2]

**6** $s = ut + \frac{1}{2}at^2$

Find the value of $s$ when $u = 5.2$, $t = 7$ and $a = 1.6$ .

$s =$ ..... [2]

[Total: 2]

**7** Simplify.

$$\frac{5}{3x} \times \frac{9x}{20}$$

..... [2]

[Total: 2]

**8** Simplify.

$$\frac{p}{2q} \times \frac{4pq}{t}$$

..... [2]

[Total: 2]

**9** Simplify.
$5w + 3h - 7w + 8h$

..... [2]

[Total: 2]

**10** Simplify $3c - 5d - c + 2d$.

..... [2]

[Total: 2]

**11** Simplify.

$3a - 5b - a + 2b$

..... [2]

[Total: 2]

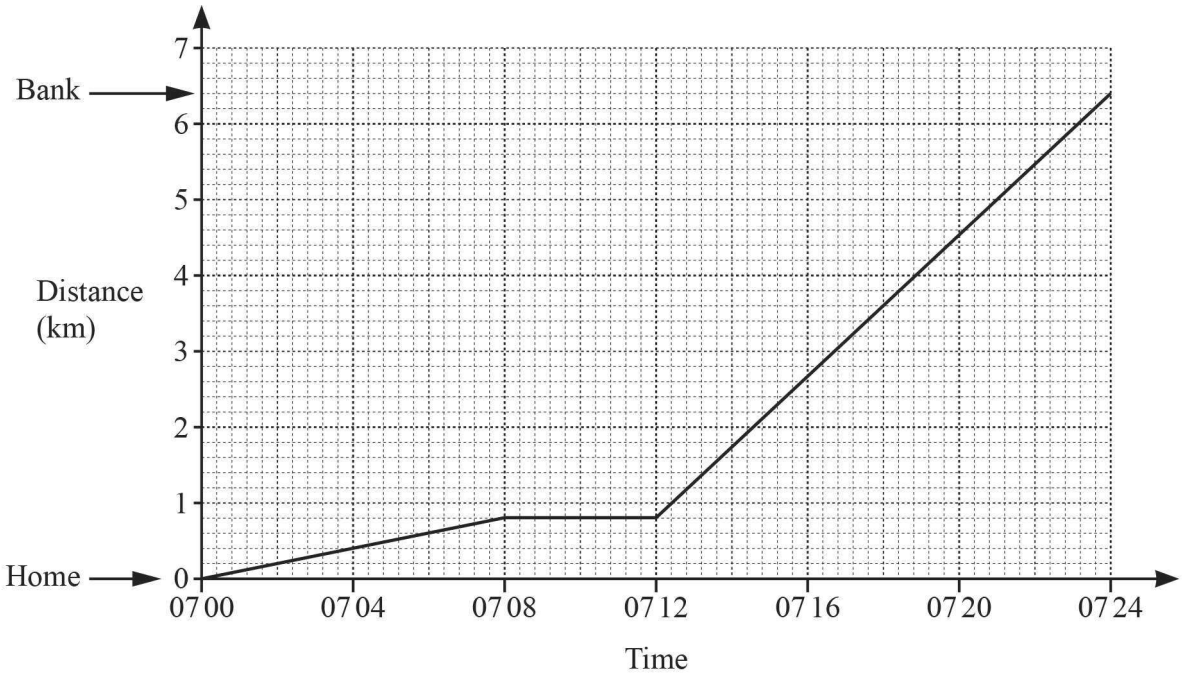
**12** Simplify.
$4x - 12y + 10x + 25y$

..... [2]

[Total: 2]

**13** Mr Vay works in a bank.

The travel graph shows Mr Vay's journey from his home to the bank.




**(a)** Write down the distance Mr Vay travels in the first 8 minutes.

..... km [1]

**(b)** Explain what is happening between 07 08 and 07 12.

..... [1]

**(c)** Between which times is Mr Vay's journey the fastest?
Give a reason for your answer.

Between ..... and .....

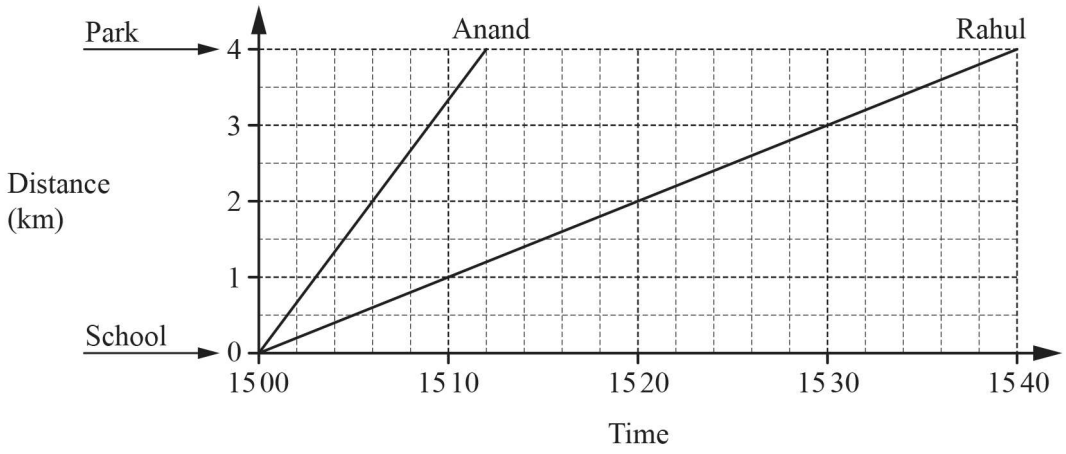
Reason ..... [2]

**(d)** Work out Mr Vay's average speed for the whole journey.
Give your answer in kilometres per hour.

..... km/h [3]

[Total: 7]

**14** Anand, Rahul and Samir go from school to the park each day.
One day, Anand cycles and Rahul walks.
The travel graph shows their journeys.




**(a)** Work out the speed that Anand cycles.
Give your answer in kilometres per hour.

..... km/h [2]

**(b)** Find the number of minutes that Anand arrives at the park before Rahul.

..... min [1]

**(c)** Samir cycles at the same speed as Anand.
He arrives at the park at the same time as Rahul.

Find the time that Samir leaves school.

..... [1]

[Total: 4]

**15** Write down the gradient of the line $y = 3x - 8$.

..... [1]

[Total: 1]

**16** For the line $y = 4x - 6$, write down

**(a)** the gradient,

..... [1]

**(b)** the $y$-intercept.

..... [1]

[Total: 2]

**17** Line $L$ has the equation $y = 5x + 12$.

Write down the gradient of line $L$.

..... [1]

[Total: 1]

**18** Write down the gradient of the line $y = -4x + 7$.

..... [1]

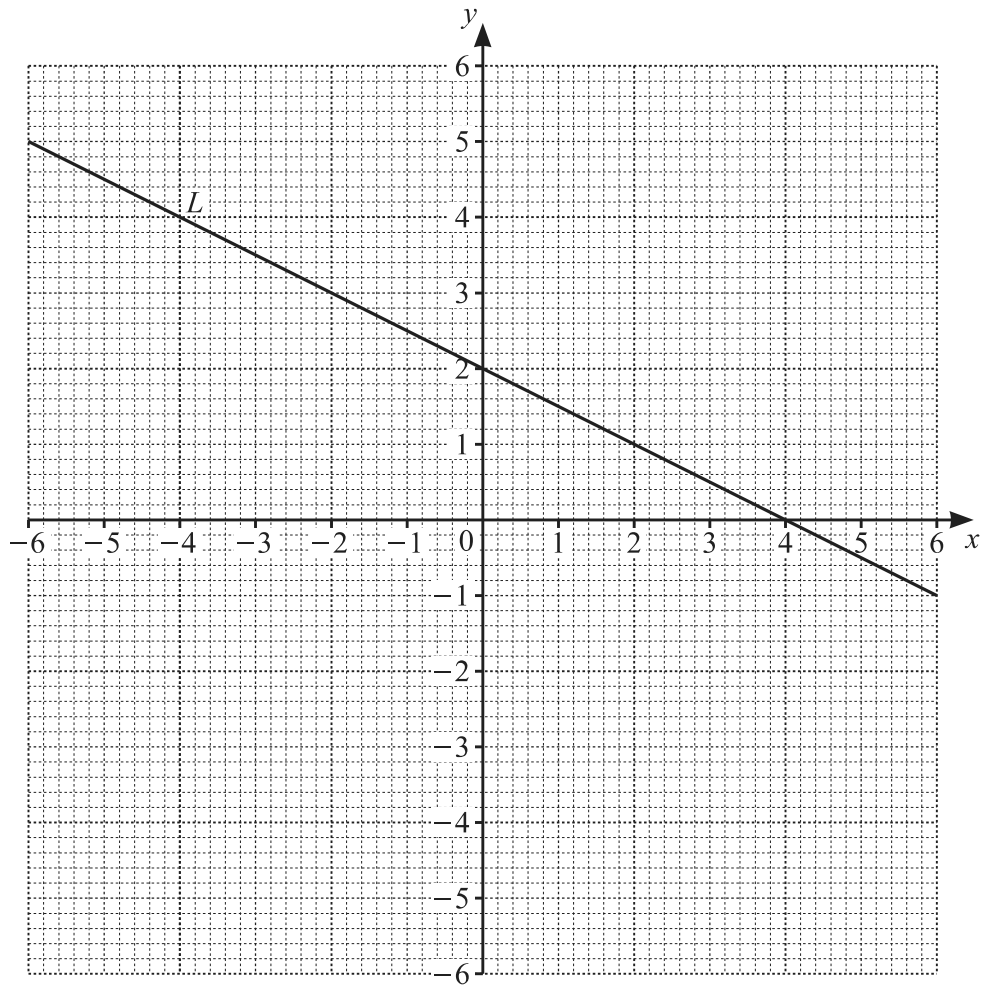
[Total: 1]

**19** Write down the gradient of the line $y = -3x + 4$.

*Answer* ..... [1]

[Total: 1]

**20** The grid shows a line $L$.




**(a)** Find the equation of line $L$.

Give your answer in the form $y = mx + c$.

$y =$ ..... [2]

**(b)** **(i)** Complete the table of values for $y = 2x + 5$.

| $x$ | −5 | −3 | 0 |
|---|---|---|---|
| $y$ | −5 | | 5 |

[1]

**(ii)** On the grid, draw the graph of $y = 2x + 5$. [1]

**(c)** Write down the coordinates of the point which lies on both line $L$ and the graph of $y = 2x + 5$.

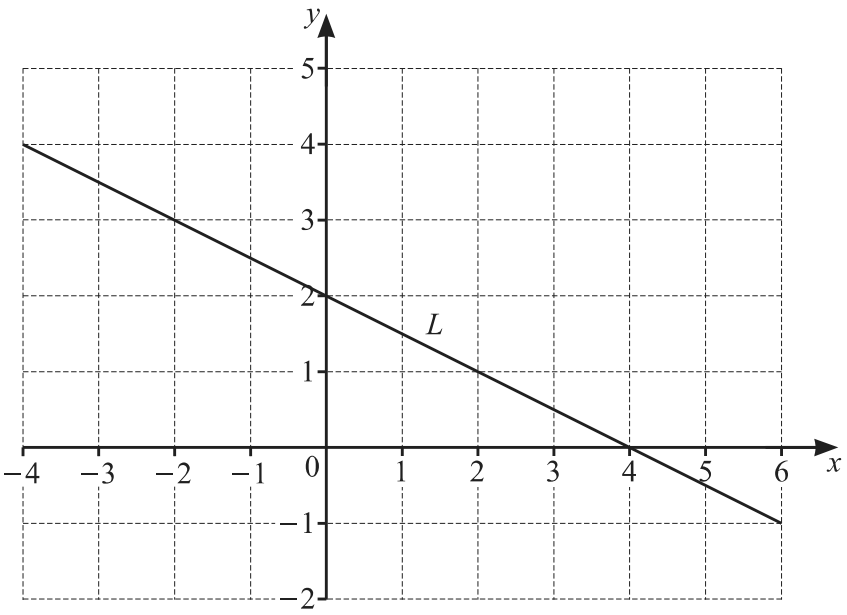
( ..... , ..... ) [1]

**(d)** Write down the equation of the line that is parallel to $y = 2x + 5$ and passes through the point (0, 18).

..... [1]

[Total: 6]

**21**




Find the equation of line $L$ in the form $y = mx + c$.

$y$ = ..... [2]

[Total: 2]

**22** **(a)** Find the gradient of line $L$.

..... [2]

**(b)** Write down the equation of line $L$ in the form $y = mx + c$.

$y =$ ..... [1]

[Total: 3]

**23** Solve the simultaneous equations.
You must show all your working.

$$4x - 3y = 26$$
$$5x + 6y = 13$$

$x =$ .....

$y =$ ..... [3]

[Total: 3]

**24** Solve the simultaneous equations.
You must show all your working.

$3x + 5y = 11$
$2x - 3y = 20$

$x =$ .....

$y =$ ..... [4]

[Total: 4]

**25** Solve the simultaneous equations.
You must show all your working.

$2x + y = 3$
$x - 5y = 40$

$x =$ .....

$y =$ ..... [3]

[Total: 3]

**26** Solve the simultaneous equations.
You must show all your working.

$5x + 6y = 14$

$2x + 8y = 7$

$x =$ .....

$y =$ ..... [4]

[Total: 4]