

1. (a) Expand and simplify

$$10a + 12c = 22a$$

$$-5c + 8c = 3c$$

$$\begin{array}{r} 5(2a - c) + 4(3a + 2c) \\ \hline 10a - 5c + 12a + 8c \end{array}$$

Answer $22a + 3c$

(b) Solve $3x < 1 - 7$, $3x < 6$

$$3x < 6 \div 3$$

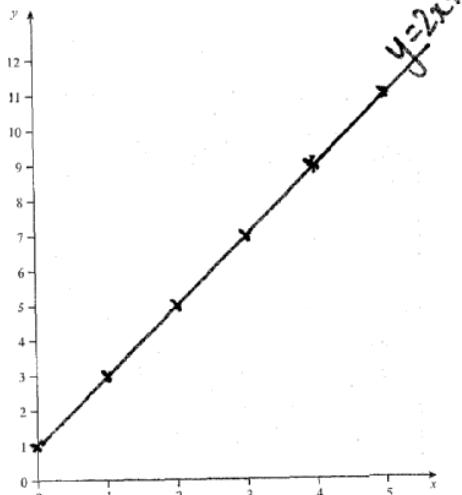
Answer $x < 2$

2. On the grid draw the graph of $y = 2x + 1$ for values of x from 0 to 5.

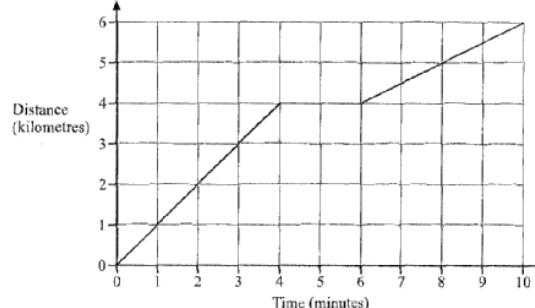
a) First complete the table of values

x	0	1	2	3	4	5
y	1	3	5	7	9	11

b) Plot the points and join them in a straight line



3. The distance-time graph shows the journey of a train between two stations. The stations are 6 kilometres apart.



(a) During the journey the train stopped at a signal. For how long was the train stopped?

Answer 2 minutes

(b) What was the average speed of the train for the whole journey? Give your answer in kilometres per hour.

$$6 \text{ km} \div 10 \text{ min} = 0.6 \text{ km/min}$$

Answer 36 kilometres per hour

4. Solve the equations

(a) $\frac{20}{x} = 4$ $20 = 4x$ $\frac{20}{4} = x$

$x = 5$

(b) $\frac{y}{3} + 5 = 9$ $y = 9 - 5$ $\frac{y}{3} = 4$ $y = 12$

Answer $y = 12$

(c) $4(z-1) = 2(z+3)$ $4z - 4 = 2z + 6$ $-2z$ $-2z$

Answer $z = 5$

$$2z - 4 = 6$$

$$\cancel{+4} \quad \cancel{-4}$$

$$2z = 10$$

$$z = 5$$

5. On the grid below draw the graph of $y = 3x - 1$ for values of x from 0 to 5.

