

# 96. Plotting Linear Graphs

## Practice Questions:

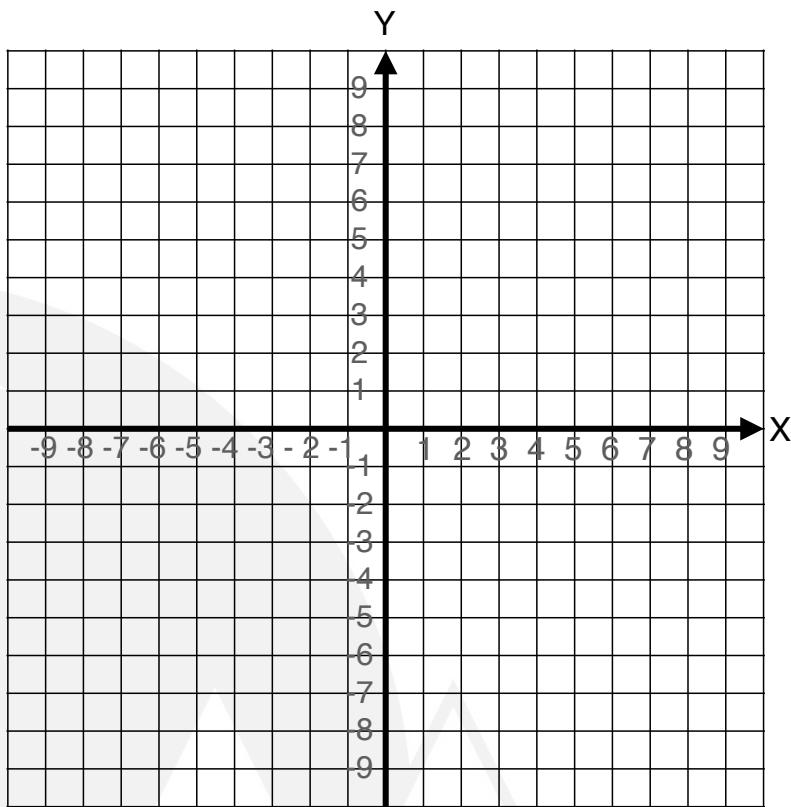
1. Plot and label the following lines on the set of axis

a)  $y = 3$

b)  $x = -2$

c)  $y = -5$

d)  $x = 8$



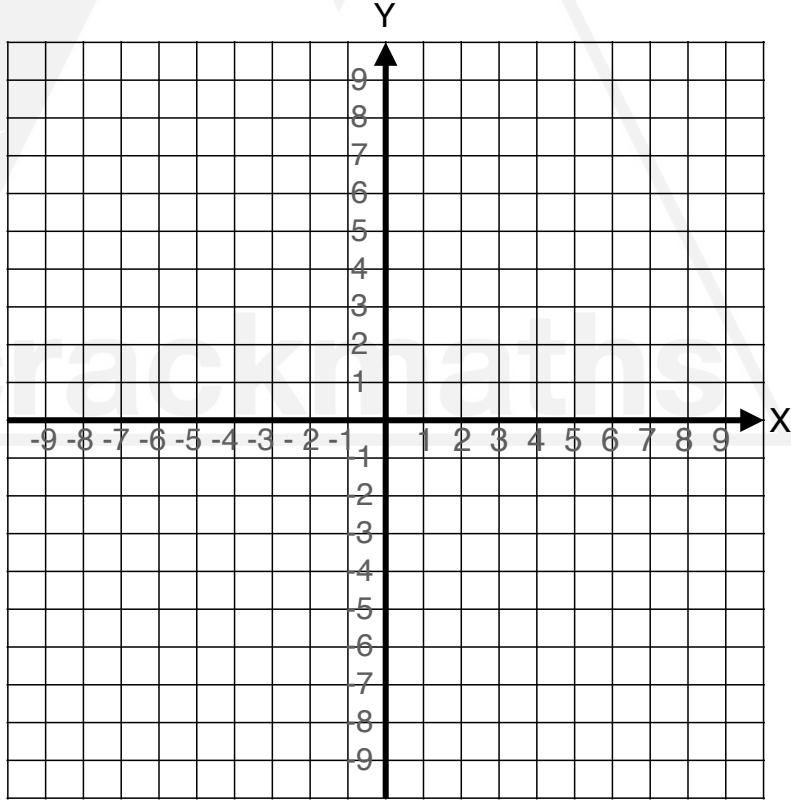
2. Plot and label the following lines on the set of axis

a)  $y = 7$

b)  $x = -8$

c)  $y = -6$

d)  $x = 0$



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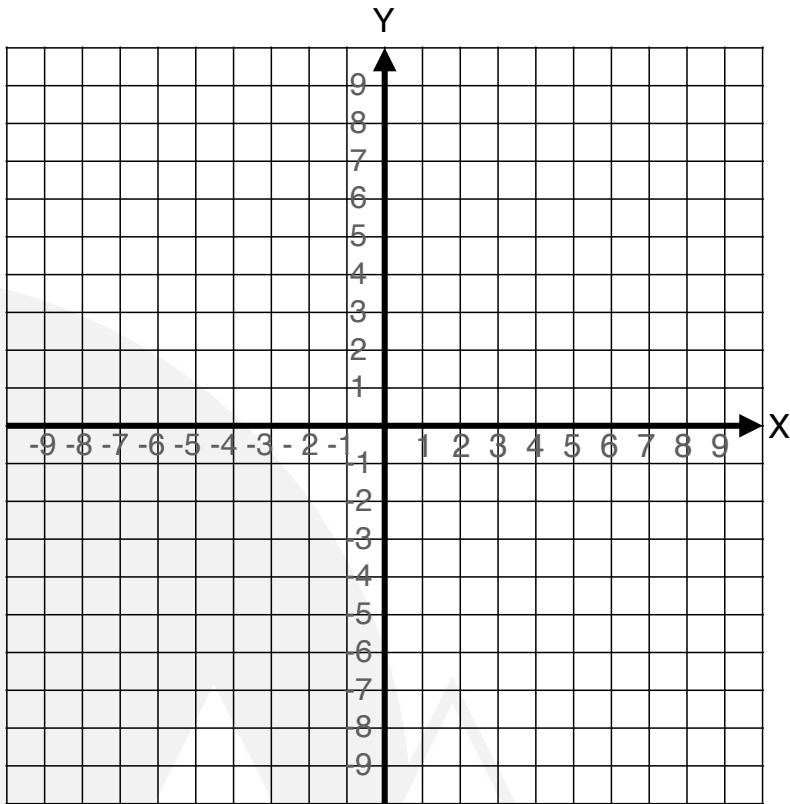
## Practice Questions:

3. Plot and label the following lines on the set of axis

a)  $y = x$

b)  $y = x + 2$

c)  $y = x - 5$

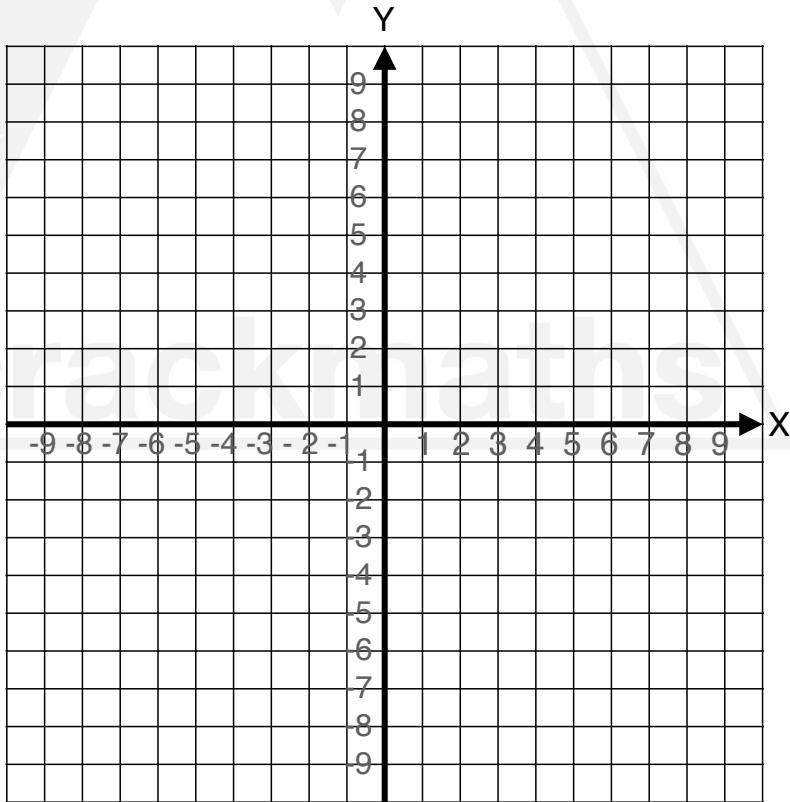


4. Plot and label the following lines on the set of axis

a)  $y = -x$

b)  $x = -x + 5$

c)  $y = -x - 4$

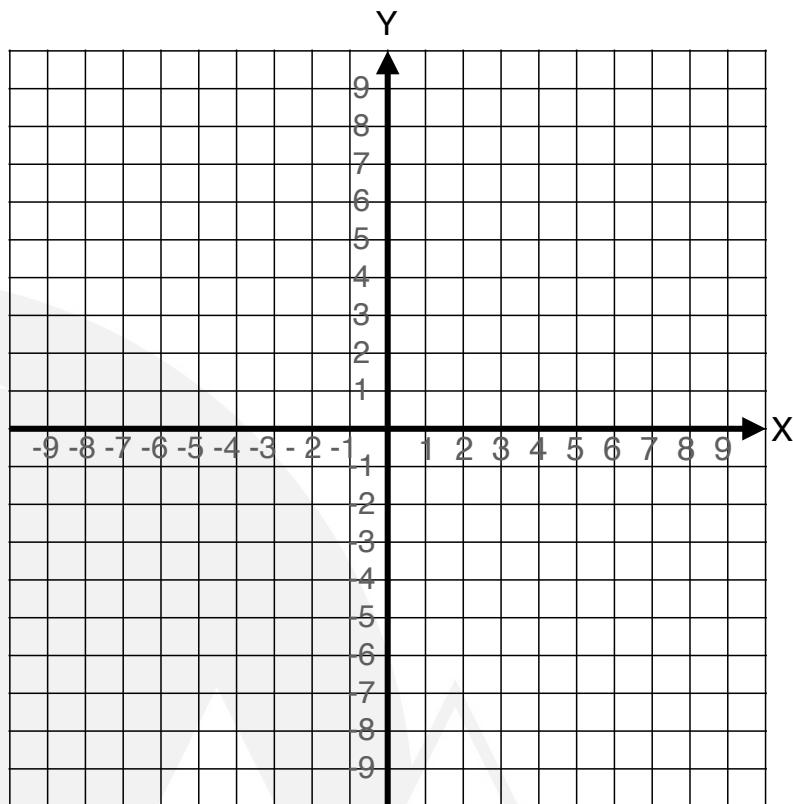


# 96. Plotting Linear Graphs

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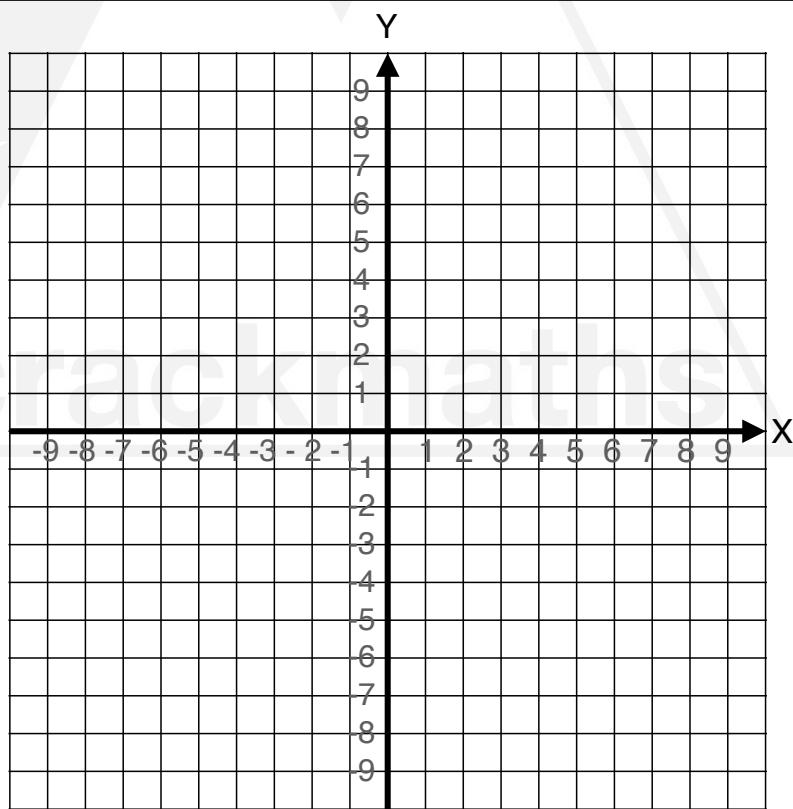
5. Complete the table and plot the coordinates to form the straight line graph for  $y = 2x + 1$ , for values of  $x$  from  $-3$  to  $3$  inclusive.

X	-3	-2	-1	0	1	2	3
Y							



6. Complete the table and plot the coordinates to form the straight line graph for  $y = -2x + 1$ , for values of  $x$  from  $-3$  to  $3$  inclusive.

X	-3	-2	-1	0	1	2	3
Y							

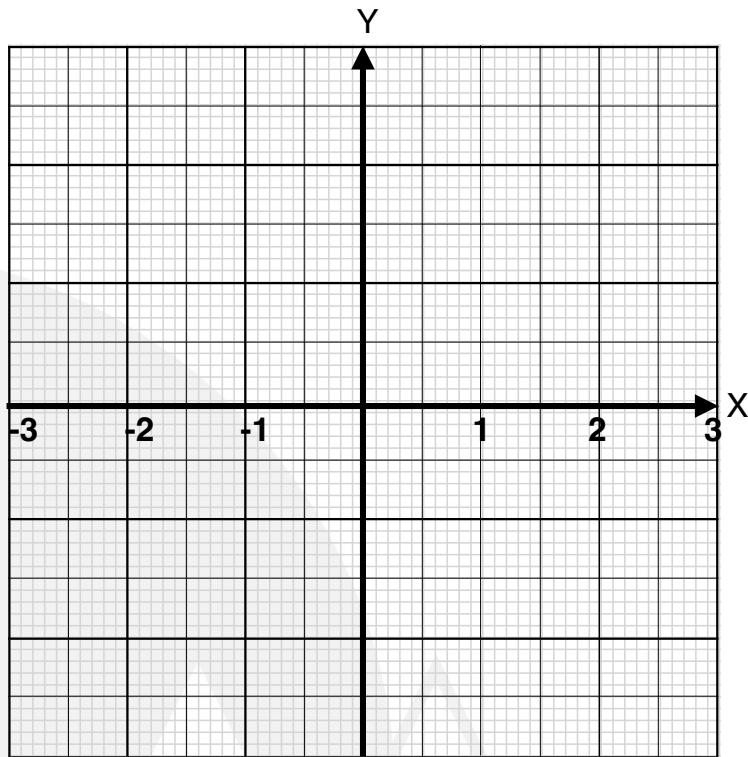


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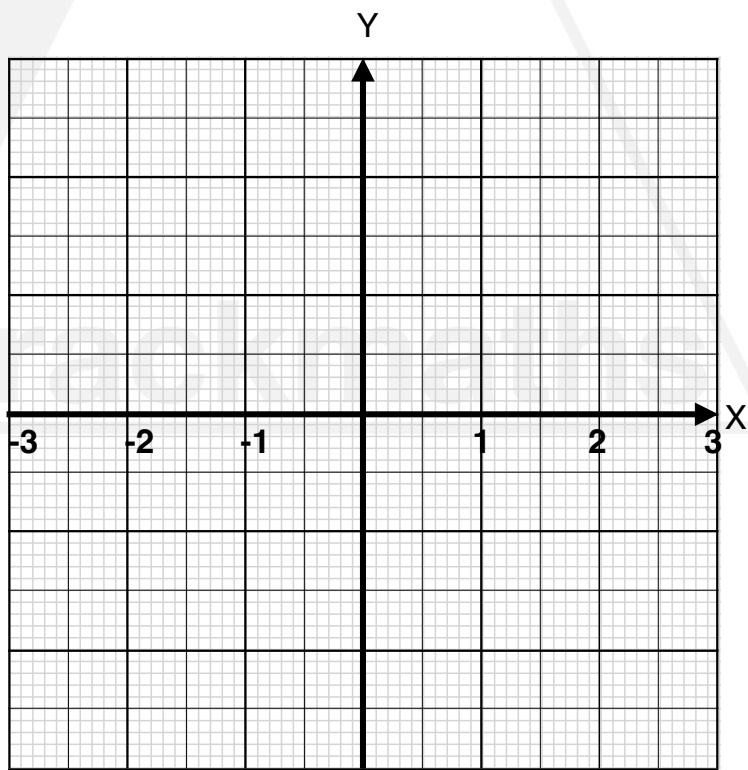
7. Complete the table and plot the coordinates to form the straight line graph of  $y = 2x + 5$ , for values of  $x$  from  $-3$  to  $3$  inclusive. Use an appropriate scale for the  $y$ -axis.

X	-3	-2	-1	0	1	2	3
Y							



8. Complete the table and plot the coordinates to form the straight line graph of  $y = 2 - 3x$ , for values of  $x$  from  $-3$  to  $3$  inclusive. Use an appropriate scale for the  $y$ -axis.

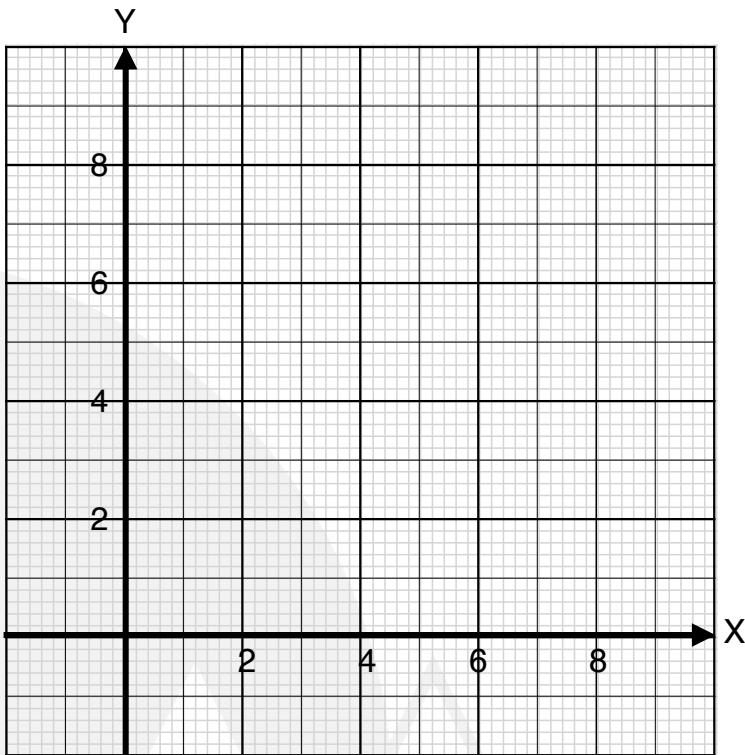
X	-3	-2	-1	0	1	2	3
Y							



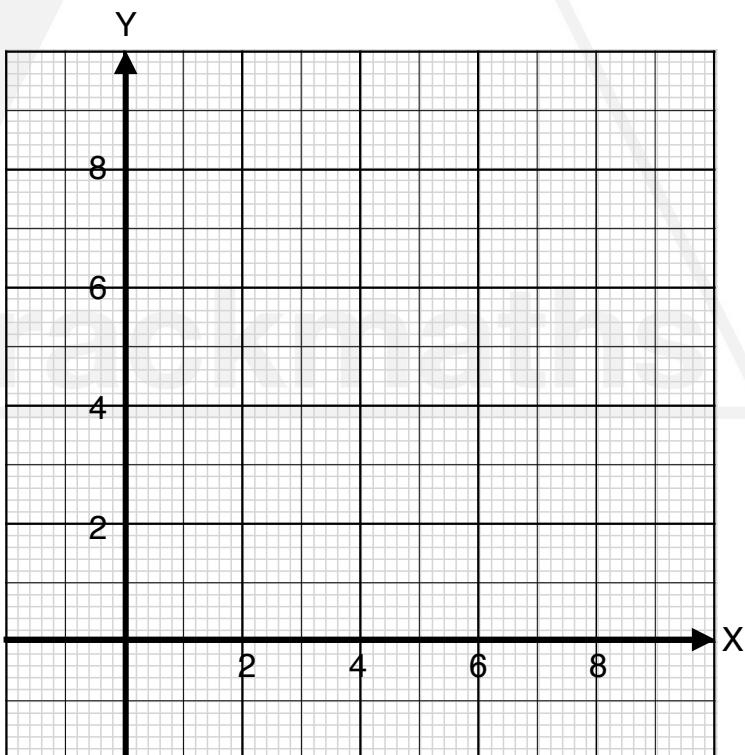
## 96. Plotting Linear Graphs

### Practice Questions:

9. By identifying the points where the equation  $2x + y = 8$  crosses the coordinate axis, plot its graph.



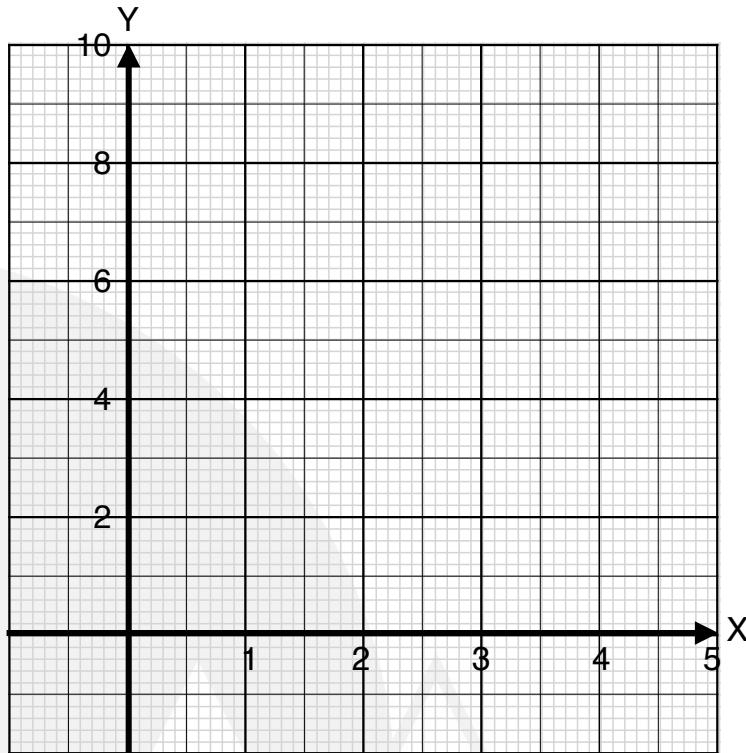
10. By identifying the points where the equation  $x + 3y = 9$  crosses the coordinate axis, plot its graph.



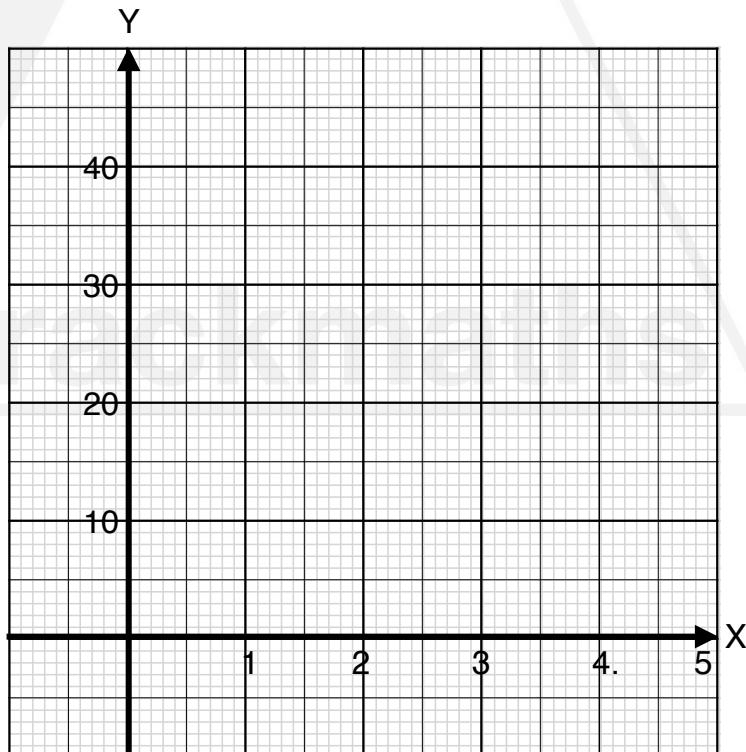
## 96. Plotting Linear Graphs

### Scenario Questions:

1. A taxi charges according to the equation  $y = 2x + 3$ , where  $y$  is the cost in £ and  $x$  is the number of miles. Plot the graph for  $x = 0$  to 5.



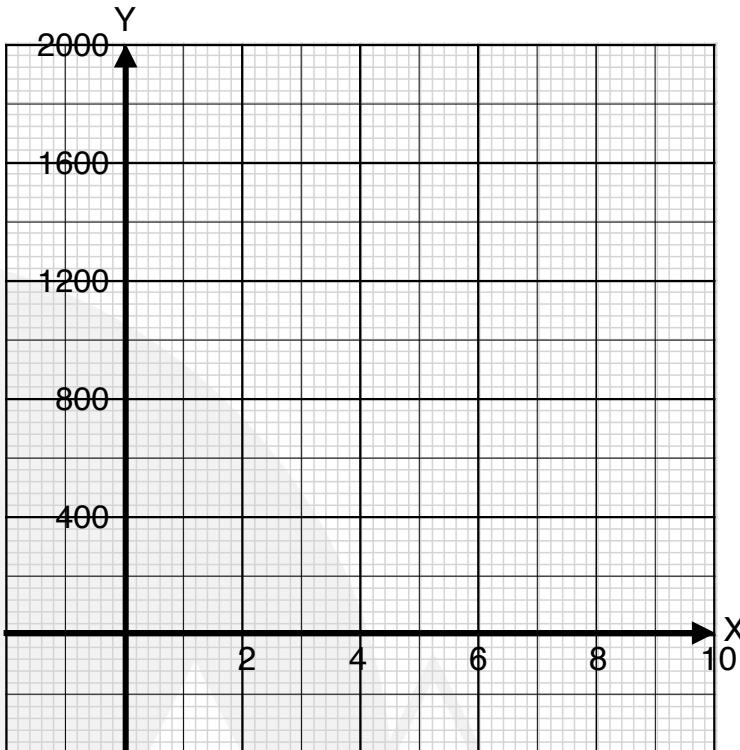
2. A phone company charges according to the equation  $y = 5x + 10$ , where  $y$  is the total monthly cost in £ and  $x$  is the number of GB of data. Plot the graph for  $x = 0$  to 5.



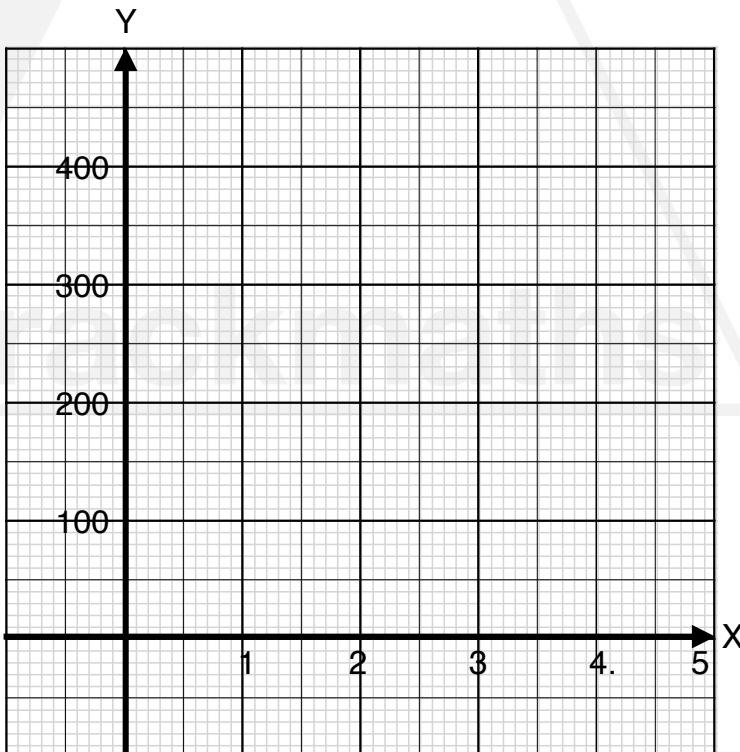
## 96. Plotting Linear Graphs

### Scenario Questions:

3. A jug is filled with water at a steady rate. The volume is given by  $y = 200x$ , where  $y$  is the volume in ml and  $x$  is the time in seconds. Plot the graph for  $x = 0$  to 10.



4. A train travels at a constant speed. The distance is given by  $y = 60x$ , where  $y$  is the distance in km and  $x$  is the time in hours. Plot the graph for  $x = 0$  to 5. Use an appropriate scale on the y-axis.



## 96. Plotting Linear Graphs

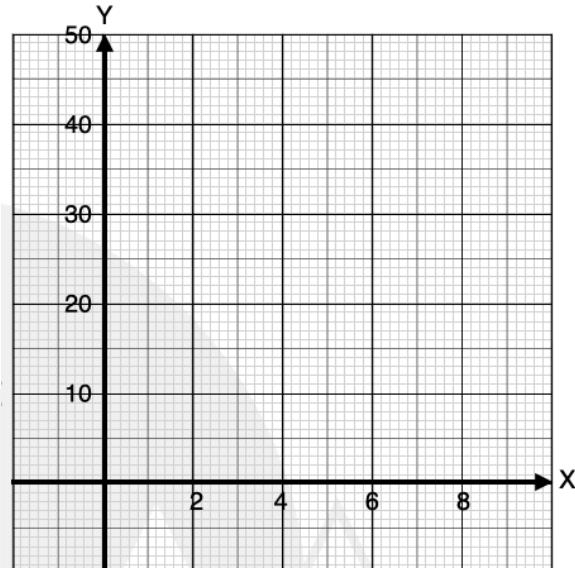
### Scenario Questions:

5. A streaming service offers two subscription options:

$$\text{Option A: } y = 4x + 10$$

$$\text{Option B: } y = 6x$$

(where  $y$  is the total cost in £ and  $x$  is the number of months).



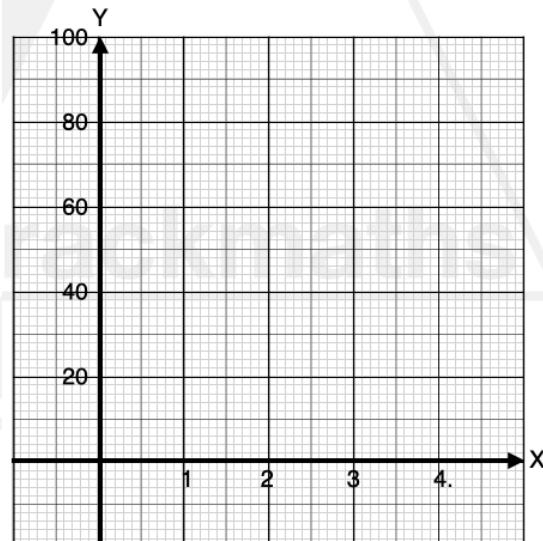
Plot both graphs for  $x = 0$  to 8. Use your graph to find after how many months both options cost the same.

6. A gym offers two membership plans:

$$\text{Plan A: } y = 15x + 20$$

$$\text{Plan B: } y = 25x$$

(where  $y$  is the total cost in £ and  $x$  is the number of sessions attended)



Plot both graphs for  $x = 0$  to 4. Use your graph to find how many sessions make the two plans costs equal.

## 96. Plotting Linear Graphs

### Scenario Questions:

7. A taxi company charges according to the equation  $y = 2x + 5$ , where  $y$  is the total cost in £ and  $x$  is the number of miles.

Another company charges  $y = 3x$ .

Plot both graphs for  $x = 0$  to  $8$  using an appropriate set of values on the  $y$ -axis.

Use your graph to find the number of miles when the two companies cost the same.

8. A supermarket charges for delivery using the equation  $y = 1.5x + 2$ , where  $y$  is the total cost in £ and  $x$  is the number of items ordered.

Another supermarket charges  $y = 2x$ .

Plot both graphs for  $x = 0$  to  $8$  using an appropriate set of values on the  $y$ -axis.

Use your graph to find the number of items at which both supermarkets cost the same.

## 96. Plotting Linear Graphs

### Scenario Questions:

9. A rectangle has length  $x$  cm and width  $y$  cm.

The perimeter is 20 cm, so one equation is:

$$x + y = 10$$

The difference between the length and the width is 2 cm, so another equation is:  $x - y = 2$

Plot both graphs on the axis by identifying their points of intersection with the axis.

Use your graph to find the values of  $x$  and  $y$ .

10. A farmer buys cows ( $x$ ) and sheep ( $y$ ).

The total number of animals is 15, so one equation is:

$$x + y = 15$$

The number of sheep is twice the number of cows, so another equation is:  $y = 2x$

Plot both graphs on the axis by identifying their points of intersection with the axis.

Use your graph to find the number of cows and sheep.

# ANSWERS

Verify  
Answers

## Topic 96. Plotting Linear Graphs

### Practice Questions:

