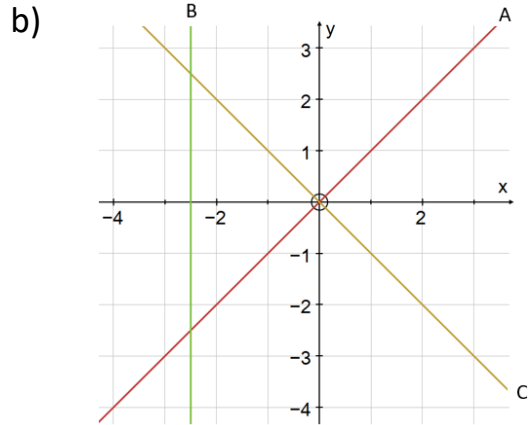
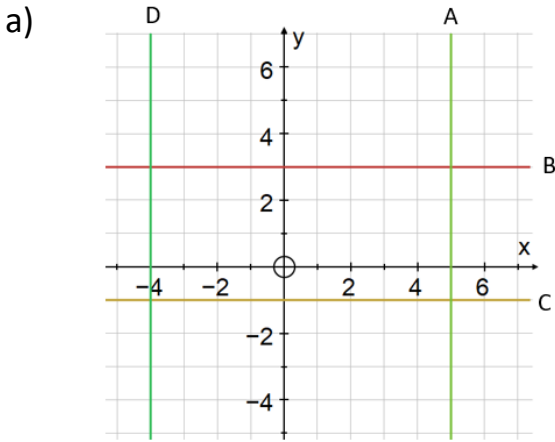


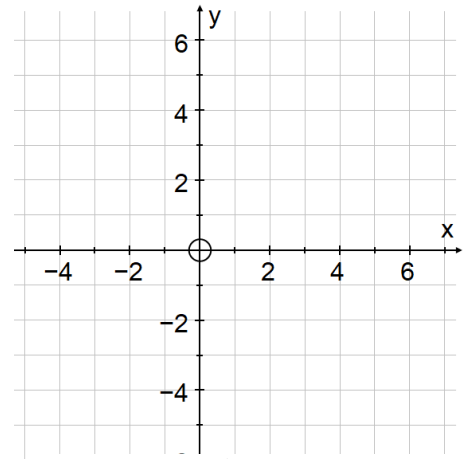
Equations of Lines

1) For each of the lines labelled with a letter below, look at the coordinates of the points on the line and then write down its equation:



2) On the axes below, draw the following lines and label them with the correct letter:

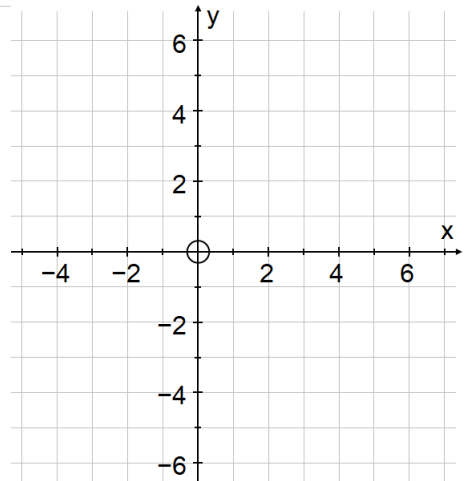
- a) $y = -5$ b) $x = 4$
 c) $y = 1$ d) $y = x$



3) On these axes, draw the following lines:

$$x = 2 \text{ and } y = 3$$

Find the coordinate where they cross each other, what do you notice?



4) Using what you have found out above, find out where the following pairs of lines cross each other

- a) $x = -1$ and $y = 4$ b) $x = 3$ and $y = 1$
 c) $x = -2$ and $y = -3$ d) $x = 2$ and $y = -2$

5) What name do we give to the line $x = 0$?

6) What name do we give to the line $y = 0$?

7) Which of the following points lie on the line $x = 3$?

- a) $(2, 3)$ b) $(3, -1000)$ c) $(\frac{3}{2}, \frac{1}{2})$ d) $(0, 3)$

8) Which of the following points lie on the line $y = -x$?

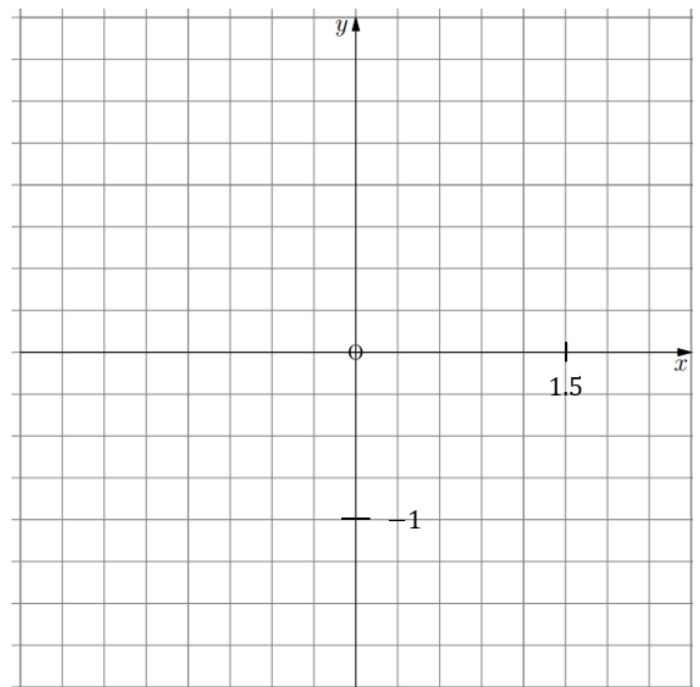
- a) $(2, 2)$ b) $(3, -3)$ c) $(-\frac{1}{2}, \frac{1}{2})$ d) $(0, 0)$

9) Why will $x = -2$ and $x = 3$ never cross each other?

10) Without drawing them on a set of axes, find out where $x = 4$ and $y = x$ cross each other.

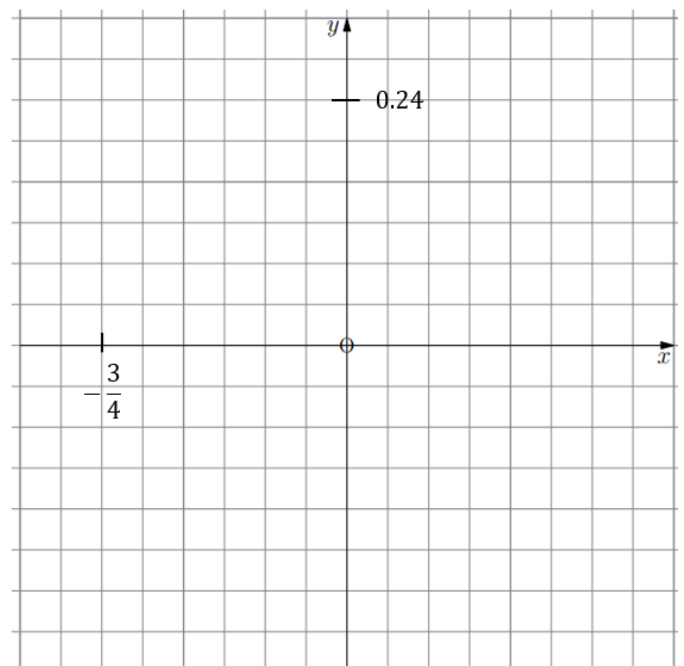
11) Draw the following lines on this grid →

- a. $x = -1.8$ b. $y = 1.5$
c. $y = -\frac{7}{4}$ d. $x = -75\%$



12) Draw the following lines on the grid on the left.

- a. $x = \frac{3}{8}$ b. $y = -0.08$
c. $x = -0.875$ d. $y = \frac{4}{25}$



Extension

Can you think of the coordinates of any points that lie on the line $y = x + 1$?

Check them with me before you go on.

Plot these points on a set of axes, and use them to draw $y = x + 1$.

Also draw $y = x$ on the same set of axes. Where do these two lines cross?

What do the equations of all the lines look like that have this property?

Answers

1a) A: $x = 5$ B: $y = 3$ C: $y = -1$ D: $x = -4$ b) A: $y = x$ B: $x = -2.5$ C: $y = -x$
3) (2,3) 4a) (-1, 4) b) (3, 1) c) (-2, -3) d) (2, -2) 5) y -axis 6) x -axis 7a) (3, -1000)
b) (3, -3) $\left(-\frac{1}{2}, \frac{1}{2}\right)$ (0, 0) 9) they are parallel 10) (4, 4)