

## EQUATION OF A LINE – PRACTICE QUESTIONS



1.

Find the equation of the line which has gradient 2 and crosses the y-axis at  $y = 5$ .

2.

Find the equation of the line which has gradient 4 and crosses the y-axis at  $y = -3$ .

3.

Find the equation of the line which has gradient 7 and crosses the y-axis at  $y = 10$ .

4.

Find the equation of the line which has gradient -3 and crosses the y-axis at  $y = 20$ .

5.

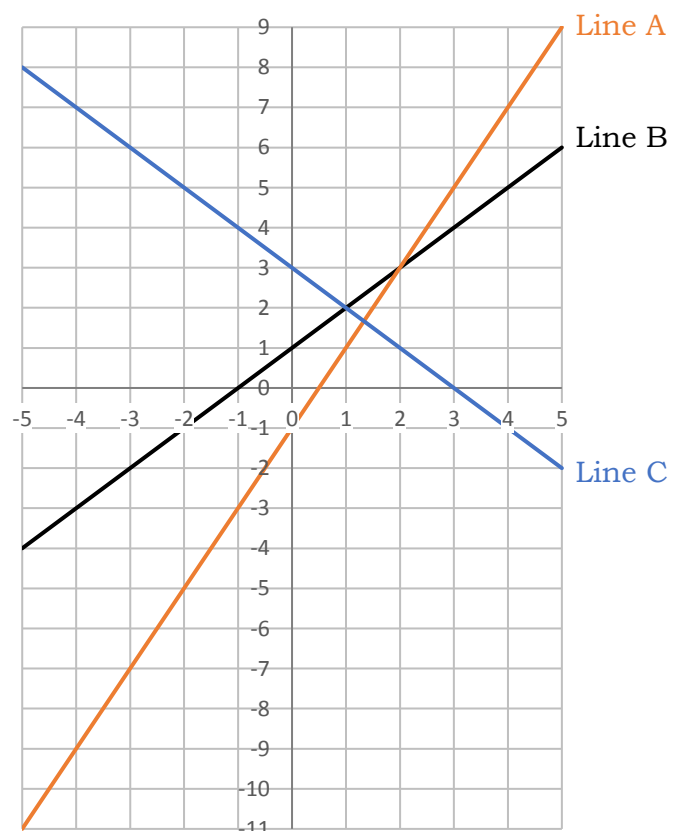
Find the equation of the line which has gradient 0.5 and crosses the y-axis at  $y = 2$ .

6.

(a) Write down the equation of Line A.

(b) Write down the equation of Line B.

(c) Write down the equation of Line C.

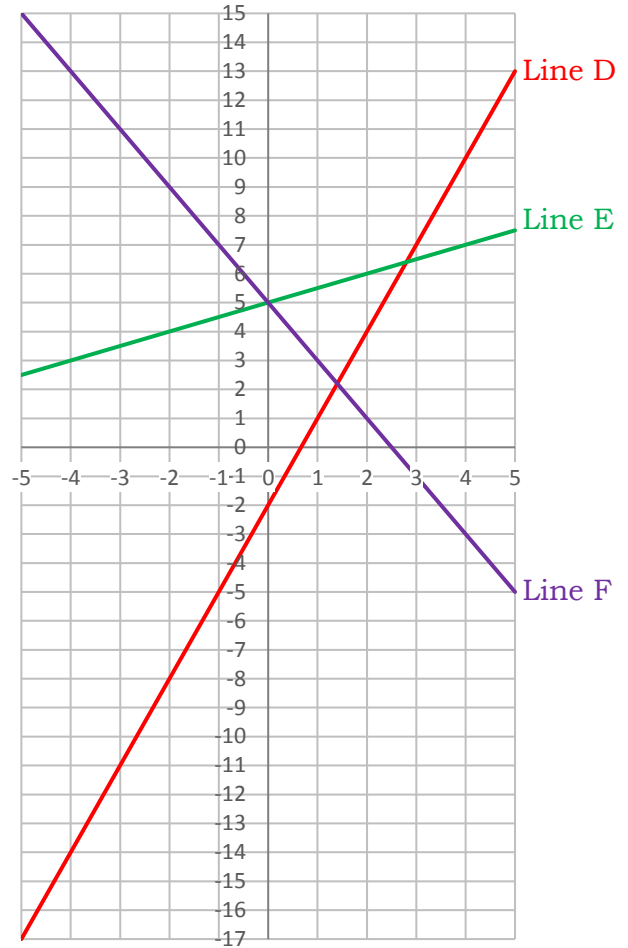


7.

(a) Write down the equation of Line D.

(b) Write down the equation of Line E.

(c) Write down the equation of Line F.



8.

Find the equation of the line which has gradient 2 and passes through the point  $(1, 8)$ .

9.

Find the equation of the line which has gradient -3 and passes through the point  $(-2, 7)$ .

10.

Find the equation of the line which has gradient 4 and passes through the point  $(-1, 0)$ .

11.

Find the equation of the line that passes through the points (3, 1) and (6, 7).

12.

Find the equation of the line that passes through the points (1, 4) and (5, 16).

13.

Find the equation of the line that passes through the points (-2, -1) and (1, 8).

14.

Find the equation of the line that passes through (2, 6) and (8, 9).

15.

Find the equation of the line that passes through (-3, 17) and (2, 7).

16.

Find the equation of the line that passes through (1, 7) and (4, -2).

17.

The line  $y = 3x - 5$  passes through the point P.

The point P has x co-ordinate 2.

Find the y co-ordinate of point P.

18.

The line  $y = 2x + 8$  passes through the point Q.

The point Q has x co-ordinate 3.

Find the y co-ordinate of point Q.

19.

The line  $y = 5x - 13$  passes through the point R.

The point R has y co-ordinate 2.

Find the x co-ordinate of point R.

20.

The line  $y = 4x + 9$  passes through the point S.

The point S has y co-ordinate 17.

Find the x co-ordinate of point S.

21.

The line  $y = 10 - 3x$  passes through the point T.

The point T has x co-ordinate 4.

Find the y co-ordinate of point T.

22.

The line  $y = 2x + 11$  passes through the points U and V.

The point U has y co-ordinate 19.

The point V has x co-ordinate -3.

(a) Find the x co-ordinate of point U.

(b) Find the y co-ordinate of point V.

23.

The line  $y = \frac{1}{2}x - 5$  passes through the points W and X.

The point W has co-ordinates (8, a).

The point X has co-ordinates (b, 8).

(a) Find a.

(b) Find b.

24.

The line  $y = -5x + 9$  passes through the points A and Z.

The point A has co-ordinates (-2, c).

The point Z has co-ordinates (d, -6).

(a) Find c.

(b) Find d.

25.

Does the line  $y = 3x + 11$  pass through the point  $(3, 20)$ ?

26.

Does the line  $y = 4x - 7$  pass through the point  $(2, 1)$ ?

27.

Does the line  $y = 9x + 1$  pass through the point  $(-1, 8)$ ?

28.

Does the line  $y = \frac{1}{2}x + 1$  pass through the point  $(4, 3)$ ?

29.

Does the line  $y = 11 - 4x$  pass through the point  $(-1, 15)$ ?

30.

Does the line  $y = -5x + 1$  pass through the point  $(-5, 26)$ ?

31.

The line L has equation  $y = 3x + 13$ .

Circle the line(s) that are parallel to L.

$$y = 2x + 13$$

$$y = 3x + 1$$

$$y = 4x + 12$$

$$y = -3x + 13$$

32.

The line M has equation  $y = 5x - 5$ .

Circle the line(s) that are parallel to M.

$$y = 5x + 5$$

$$y = -5x + 5$$

$$y = 5x$$

$$y = -5x$$

33.

The line N has equation  $y = \frac{1}{2}x + 3$ .

Circle the line(s) that are parallel to N.

$$y = 2x + 1$$

$$y = \frac{1}{2}x + 1$$

$$y = x + \frac{1}{2}$$

$$y = 3x + 10$$

34.

The line O has equation  $y = 11 - 2x$ .

Circle the line(s) that are parallel to O.

$$y = 11 + 2x$$

$$y = 10 - 2x$$

$$y = -2x + 5$$

$$y = 11 - 3x$$

35.

The line A has equation  $y = 4x - 10$ .

The line B is parallel to line A and crosses the y-axis at  $y = 1$ .

Find the equation of the line B.

36.

The line C has equation  $y = 5x + 2$ .

The line D is parallel to line C and passes through the point (1, 3).

Find the equation of the line D.

37.

The line E has equation  $y = 20 - 7x$ .

The line F is parallel to line E and passes through the point (-1, 10).

Find the equation of the line F.



38.

The line L passes through the points (4, 2) and (7, 11).

(a) Find the equation of L.

(b) Does Line L pass through the point (-1, 13)?

(c) L passes through the point P.

P has x co-ordinate 5.

Find the y co-ordinate of point P.

39.

The line M passes through the points (-1, 9) and (3, 17).

(a) Find the equation of M.

(b) The line N has equation  $y = 2x - 2$ .

Are the lines N and M parallel? Explain your answer.

40.

The line Q passes through the points  $(-2, 20)$  and  $(3, 5)$ .

(a) Find the equation of Q.

(b) Does Q pass through the point  $(-5, 29)$ ?

41.

The line R passes through the point  $(10, 9)$  and crosses the x-axis at  $x = -8$ .

(a) Find the equation of R.

(b) R passes through the point  $(11, a)$ .

Find a.

(c) R also passes through the point  $(b, 20)$ .

Find b.