Name:

Exam Style Questions

Equation of a Line

Corbettmaths

Equipment needed: Ruler, calculator, pencil and pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

www.corbettmaths.com/contents

Videos 188, 191, 194, 195

Answers and Video Solutions

1. A line has equation $y = 3x + 4$

(a) Write down the gradient of the line

.....

(1)

(b) Write down the y-intercept of the line

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(1)

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2. Write down the gradient of the straight line with equation $y = 7x + 9$

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(1)

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3. A straight line with equation $y = 4x + 2$

Write down the coordinates of the point where the line intersects the y-axis.

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(1)

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4. A straight line with equation $y = 2x - 5$ intersects the y-axis at the point D.

Write down the coordinates of the point D.

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(1)

5. Circle the equation that is **not** the equation of a straight line.

$y = x + 1$ $\quad$ $y = 9x - 2$

$y = x^2$ $\quad$ $y = 7 - 2x$

(1)

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6. A line has equation $y = -x + 5$

Write down the gradient of the line

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(1)

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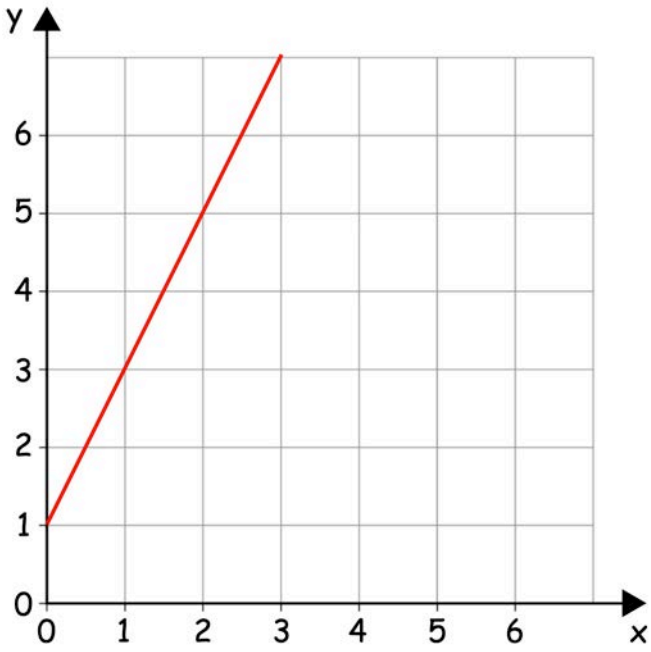
7. A straight line L is shown on the grid.



Work out the equation of line L

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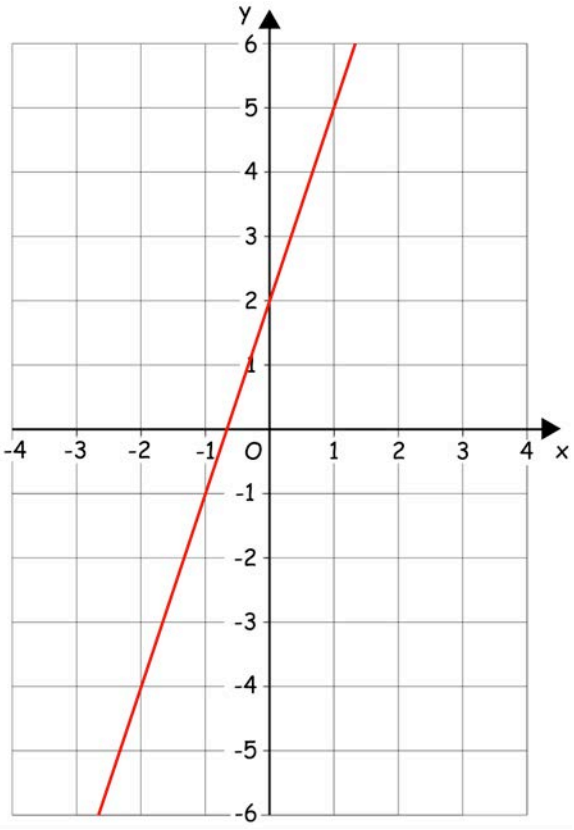
(3)

8. A straight line is shown on the grid below.



(a) Write down the y-intercept.

.....

(1)

(b) Find the gradient of the line.

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(1)

(c) Write down the equation of the line.

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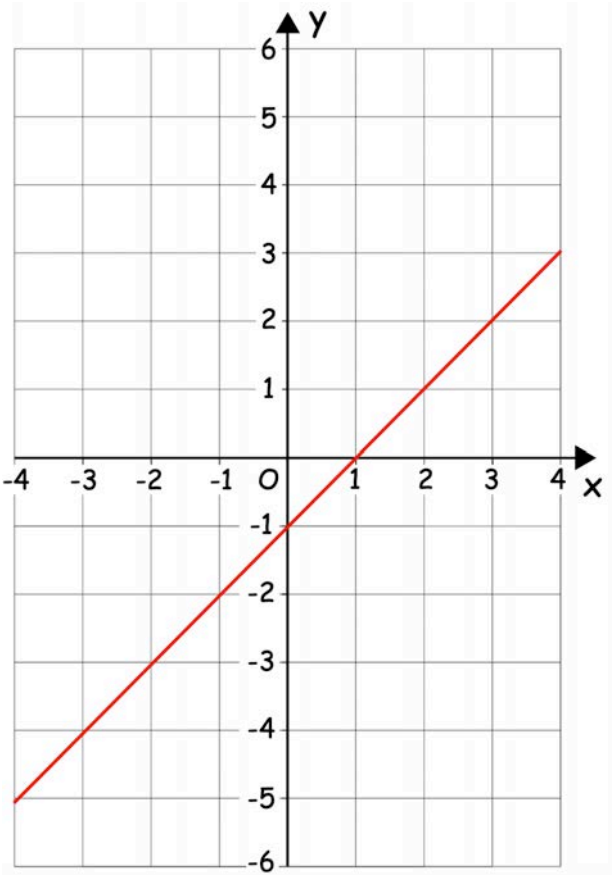
(1)

9. A straight line L is shown on the grid.



Work out the equation of line L

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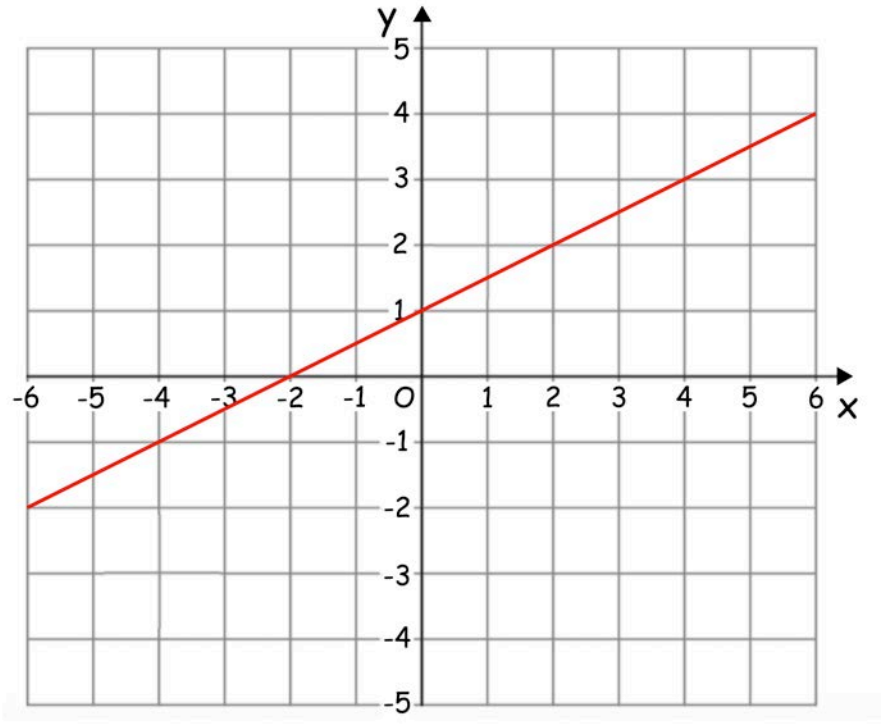
(3)

10. A straight line L is shown on the grid.



Work out the equation of line L

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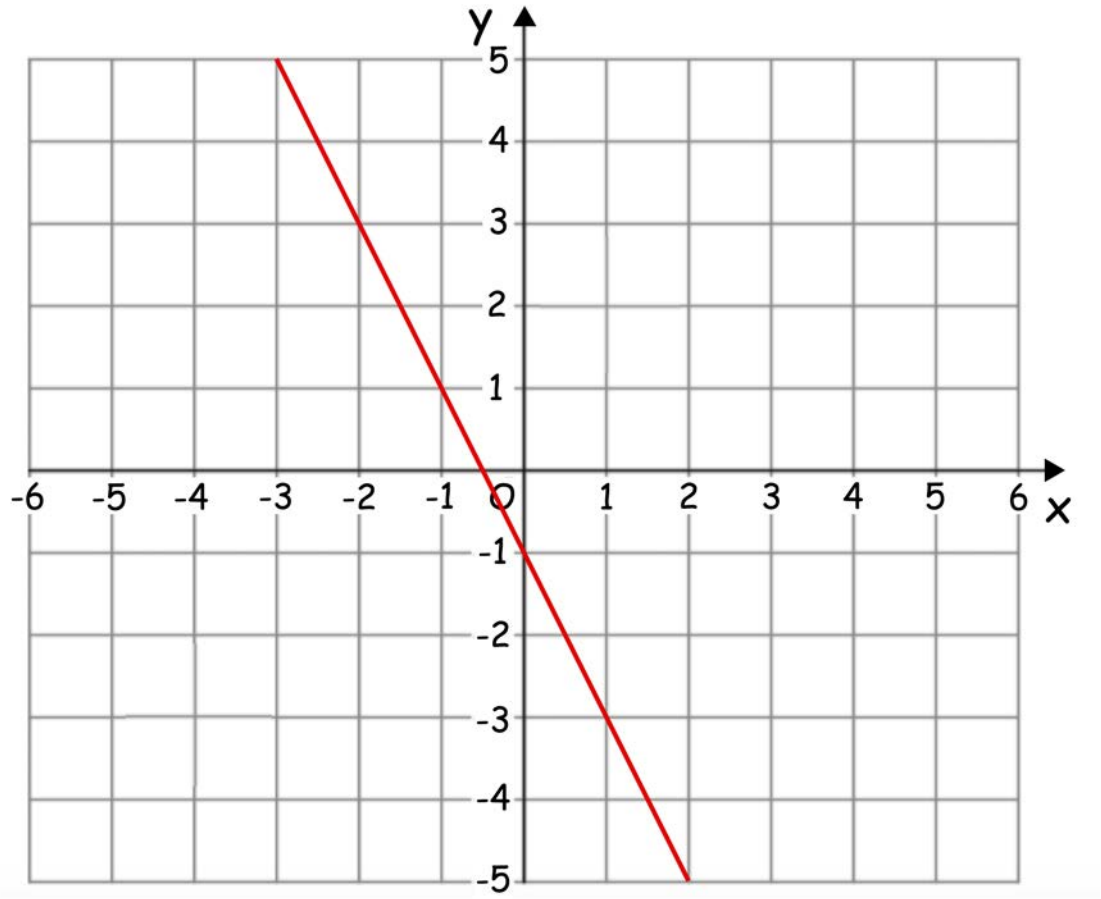
(3)

11. A straight line L is shown on the grid.



Work out the equation of line L

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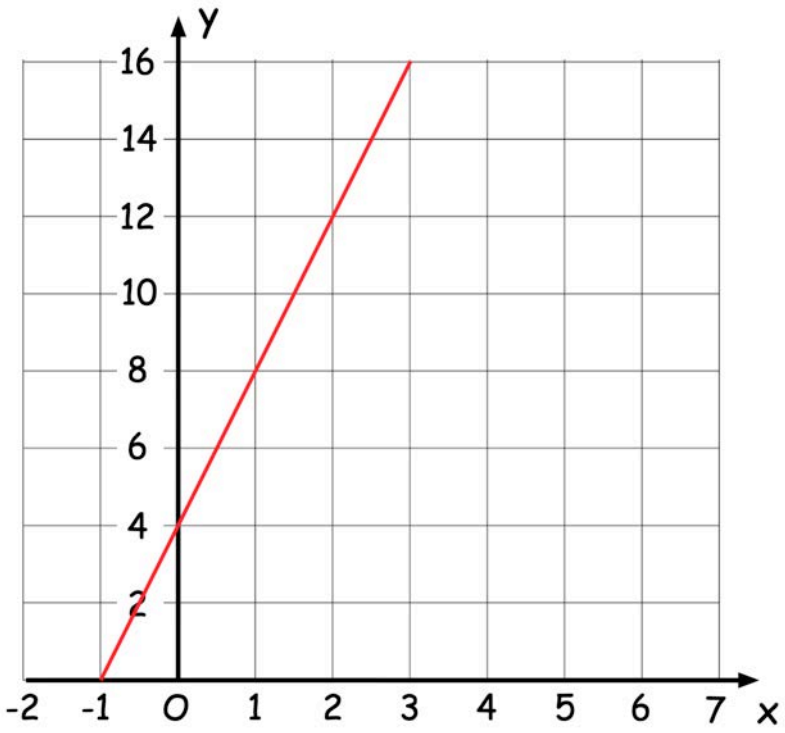
(3)

12. A straight line L is shown on the grid.



Work out the equation of line L

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(3)

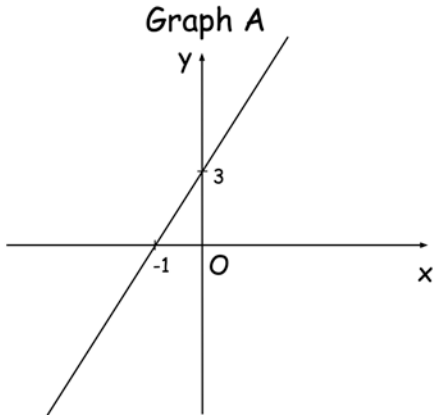
13. A line has equation $y = 3 - 4x$

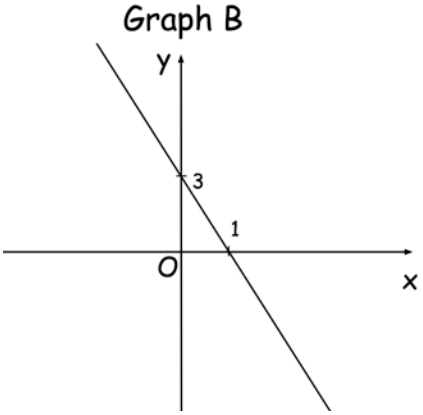
Write down the gradient of the line

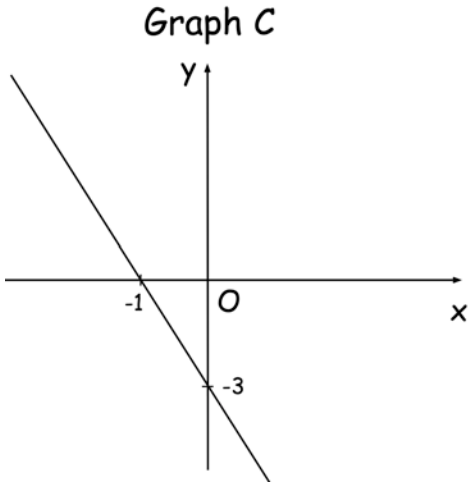
.....

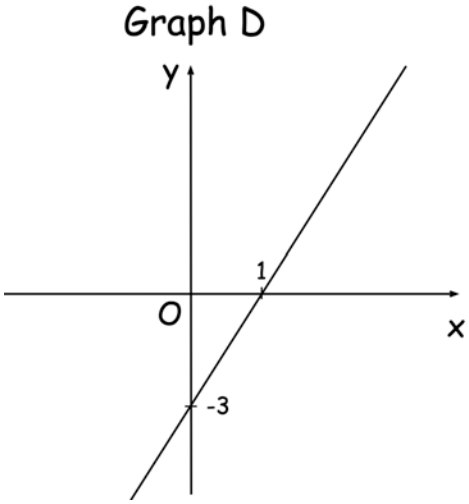
(1)

14. Shown below are four straight line graphs.







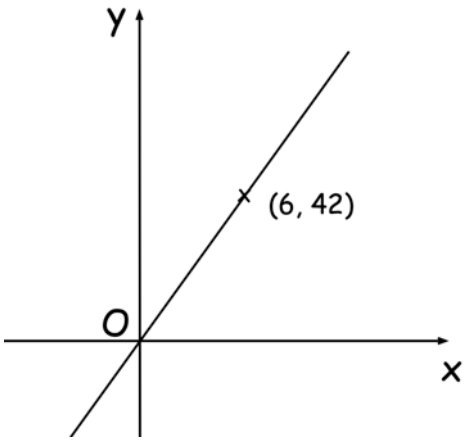


Match each equation to its graph.

Equation	Graph
$y = 3x + 3$	
$y = 3x - 3$	
$y = -3x + 3$	
$y = -3x - 3$	

(2)

15. A straight line is shown below.



Work out the equation of the line.

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(2)

16. Work out the gradient of the line $y + 7x = 8$

.....

(2)

17. A line has equation $3x + y = 15$

(a) Find the gradient of the line.

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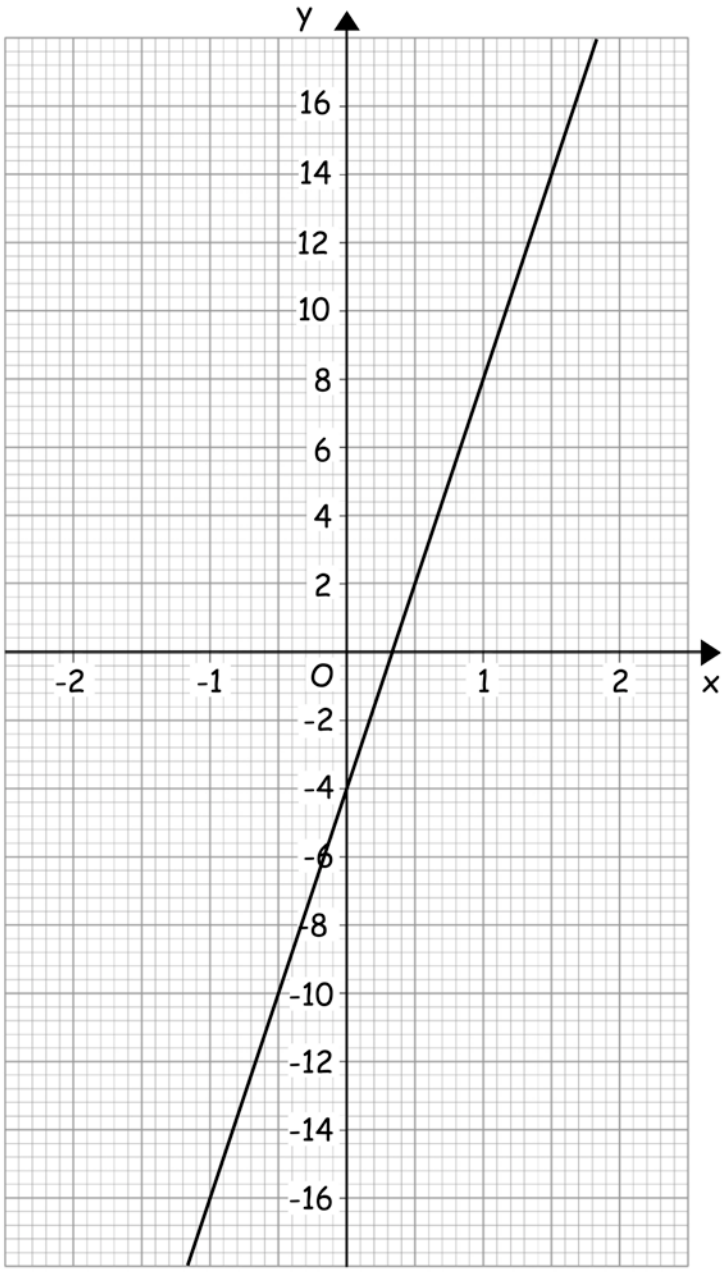
(2)

(b) Find where the line crosses the y-axis

.....

(1)

18. A straight line is shown on the grid.



Find the equation of the line.

.....

(3)

19. A line has equation $y = -2x + 6$

(a) Write down the coordinates of the point where the line intersects the y-axis.

.....

(1)

(b) Write down the coordinates of the point where the line intersects the x-axis.

.....

(1)

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20. A line has equation $6x + 2y + 9 = 0$

(a) Find the gradient of the line.

.....

(2)

(b) Find where the line crosses the y-axis

.....

(1)

21. The equations of four lines are given below.

Line A	$y = 4x + 1$
Line B	$y + 2x = 8$
Line C	$y = 9 - 2x$
Line D	$y - 3x = 3$

Which lines go through the point (2, 9)?

.....

(2)

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22. The line L passes through the points (0, 7) and (3, 19)

Work out the equation of the line L.

.....

(2)

23. (a) Write down the gradient of the straight line with equation $y = 8x + 2$

.....

(1)

The line cuts the y-axis at the point A

(b) Write down the coordinates of the point A.

.....

(1)

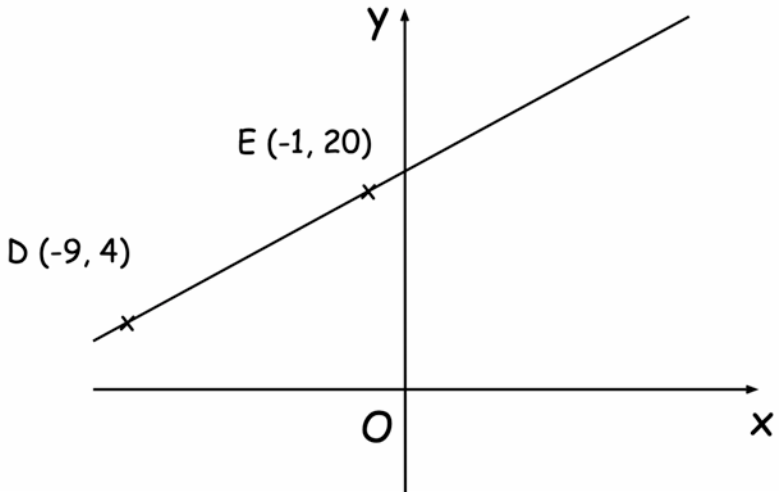
The line cuts the x-axis at the point B

(c) Write down the coordinates of the point B.

.....

(2)

24. A line passes through the points D $(-9, 4)$ and E $(-1, 20)$



(a) Find the gradient of the line.

.....

(2)

(b) Find the equation of the line.

.....

(2)

(c) Does the line pass through the point with coordinates $(12, 44)$?
Explain your answer.

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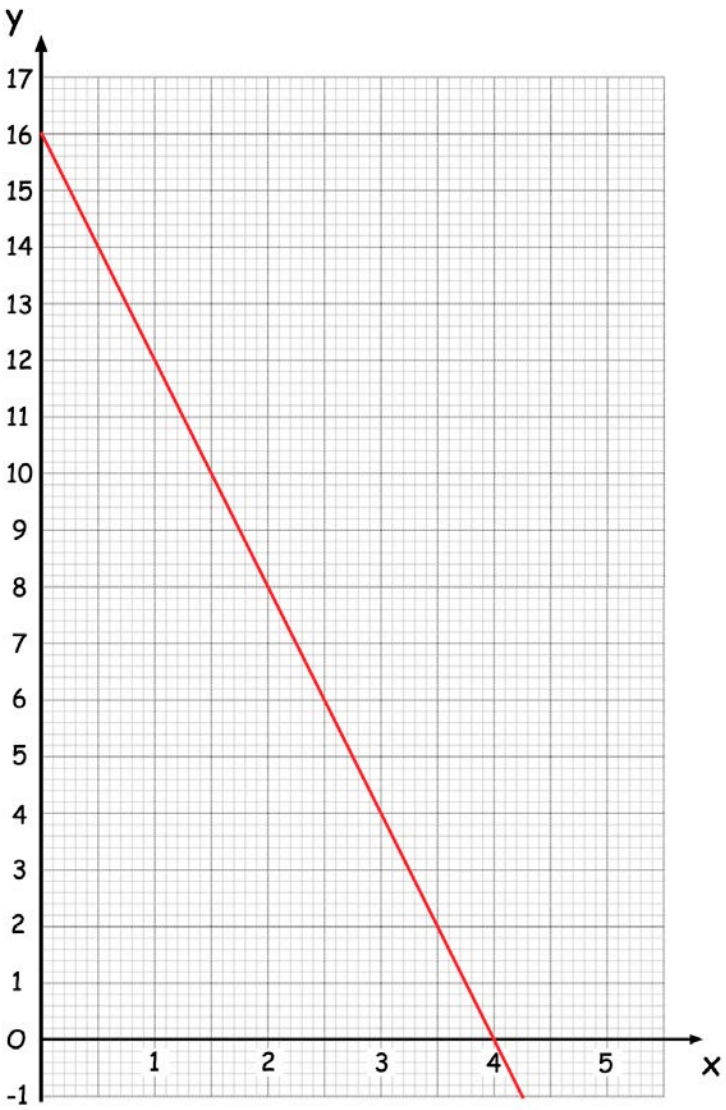
(2)

25.



(a) Find the equation of the line.

.....

(3)

(b) Give the y-coordinate of the point on the line with an x-coordinate of 8

.....

(2)

26. Find the equation of the line that passes through the points (–3, 5) and (1, –15)

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(3)

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27. The point A (1, 1) and the point B (5, –1) lie on the line L.

Find the equation of the line L.

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(3)

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28. A line has a gradient of 8 and passes through the point (2, 3).

Find the equation of the line.

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(2)

29. A straight line passes through the point $(1, 3)$ and has gradient -4

Find the equation of the line.

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(2)

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30. A line has a gradient of $-\frac{1}{2}$ and passes through the point (–6, –8)

Find the equation of the line.

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(3)

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31. A line has a gradient of $-\frac{4}{5}$ and passes through the point (30, 24)

Find the equation of the line.

.....

(3)

32. The line with equation $4x + 3y = 36$ crosses the y-axis at the point A.

The line with equation $y = \frac{2}{3}x - 12$ crosses the x-axis at the point B.

The point C is the midpoint of AB.

Find the coordinates of the point C.

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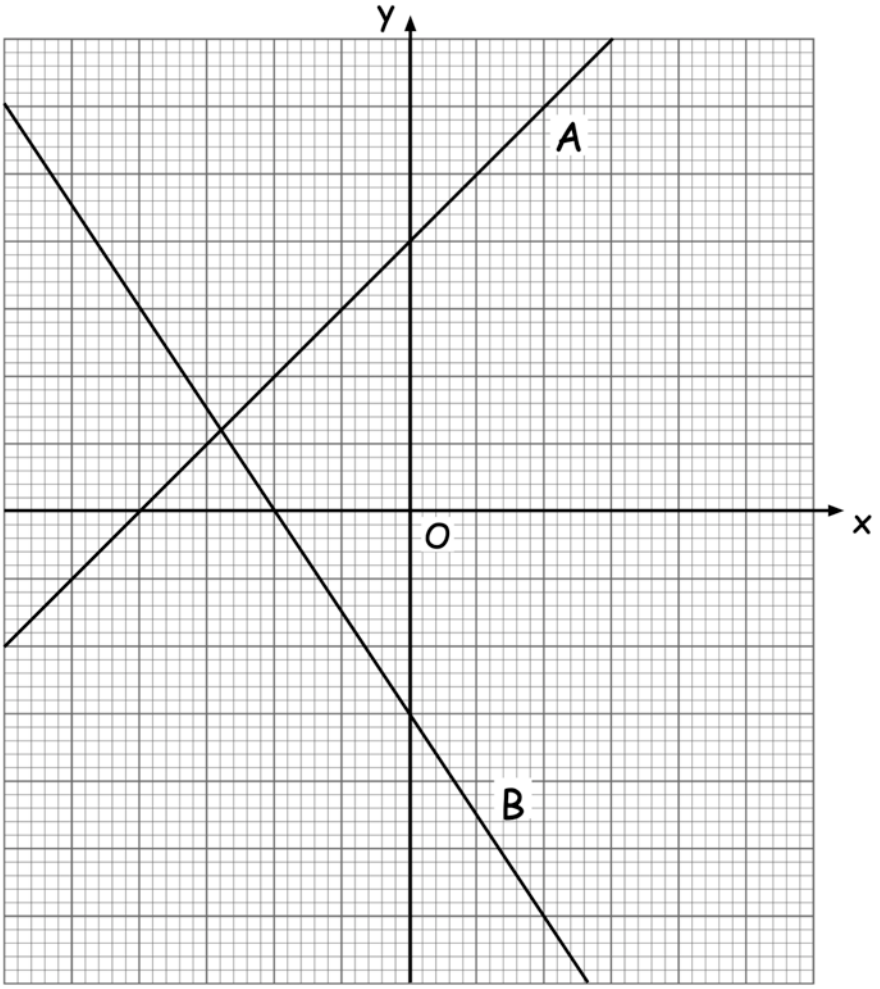
(4)

33. Lines A and B are shown on the grid.



The equation of line A is $y = 5x + 40$

Find the equation of line B

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(5)