Name:

Exam Style Questions

Linear Graphs:
Parallel Lines
Perpendicular Lines

Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

www.corbettmaths.com/contents

Video 196

Video 197

1. Write down the equation of a line parallel to $y = 2x - 3$

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(1)

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2. Write down the equation of the line that is parallel to $y = 6x + 1$ and passes through (0, 8).

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(2)

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3. Write down the equation of the line that is parallel to $x + 2y = 4$ and passes through the point (0, 5)

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(2)

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4. Write down the equation of a line perpendicular to $y = 2x + 3$

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(1)

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5. Write down the equation of the line that is perpendicular to $y = \frac{1}{2}x + 3$ and passes through (0, –1)

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(2)

6. Write down the equation of the line that is perpendicular to $3x - y = 1$ and passes through (0, 9)

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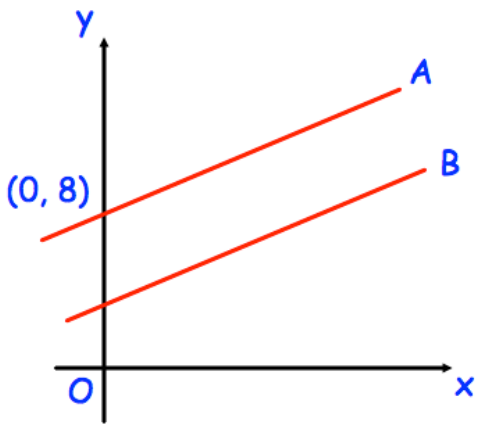
(2)

7.



The lines A and B are parallel.

The line A passes through the point (0, 8)
The line B has equation $y = 3x + 1$

Write down the equation of line A

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(2)

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8. A straight line L passes through the points (0, 6) and (4, –2).
A straight line M passes through the point (0, 1) and is parallel to line L.

Find the equation of the line M

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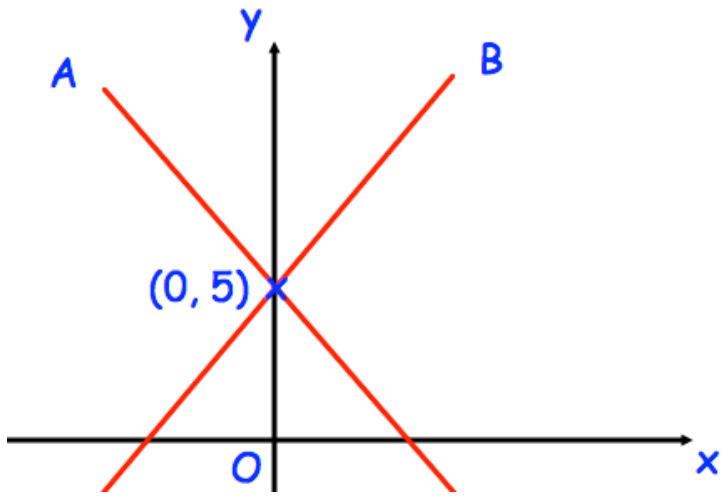
(2)

9.



The lines A and B are perpendicular.

Both lines pass through the point (0, 5)
The gradient of line A is $-\frac{3}{4}$

Write down the equation of line B

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(2)

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10. The point A is (5, –2) and the point B is (11, 1).

Find the equation of the line perpendicular to AB passing through the origin.

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(3)

11. The equations of five lines are given below.

Line A $y = 2x + 3$

Line B $y = \frac{1}{2}x - 3$

Line C $y = 6 - x$

Line D $y - 2x = 7$

Line E $y + 2x = 3$

(a) Which line goes through the point (1, 9)?

.....

(1)

(b) Which two lines cross the y-axis at the same point?

..... and .....

(2)

(c) Which two lines are parallel?

..... and .....

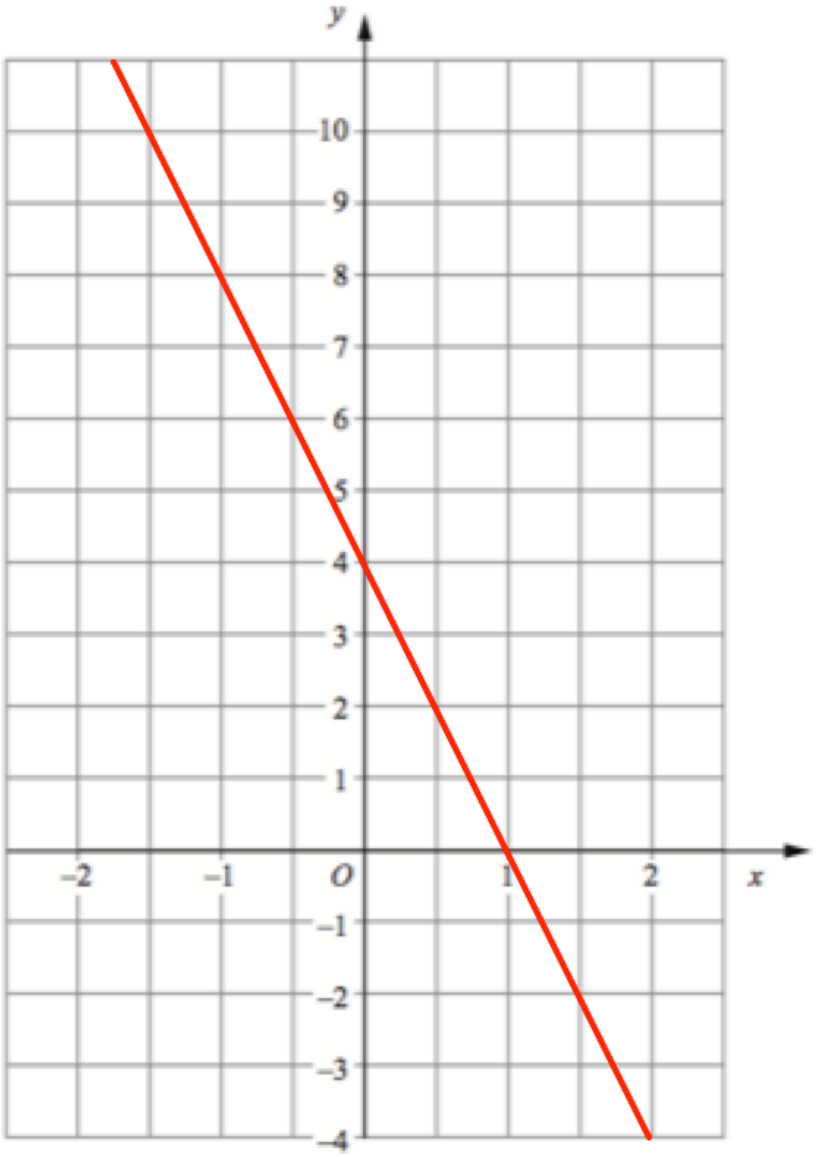
(2)

(d) Which two lines are perpendicular?

..... and .....

(2)

12.



The line A is drawn on the grid.

Another line B is parallel to line A and passes through the point (2, 0)

Find the equation for line B.

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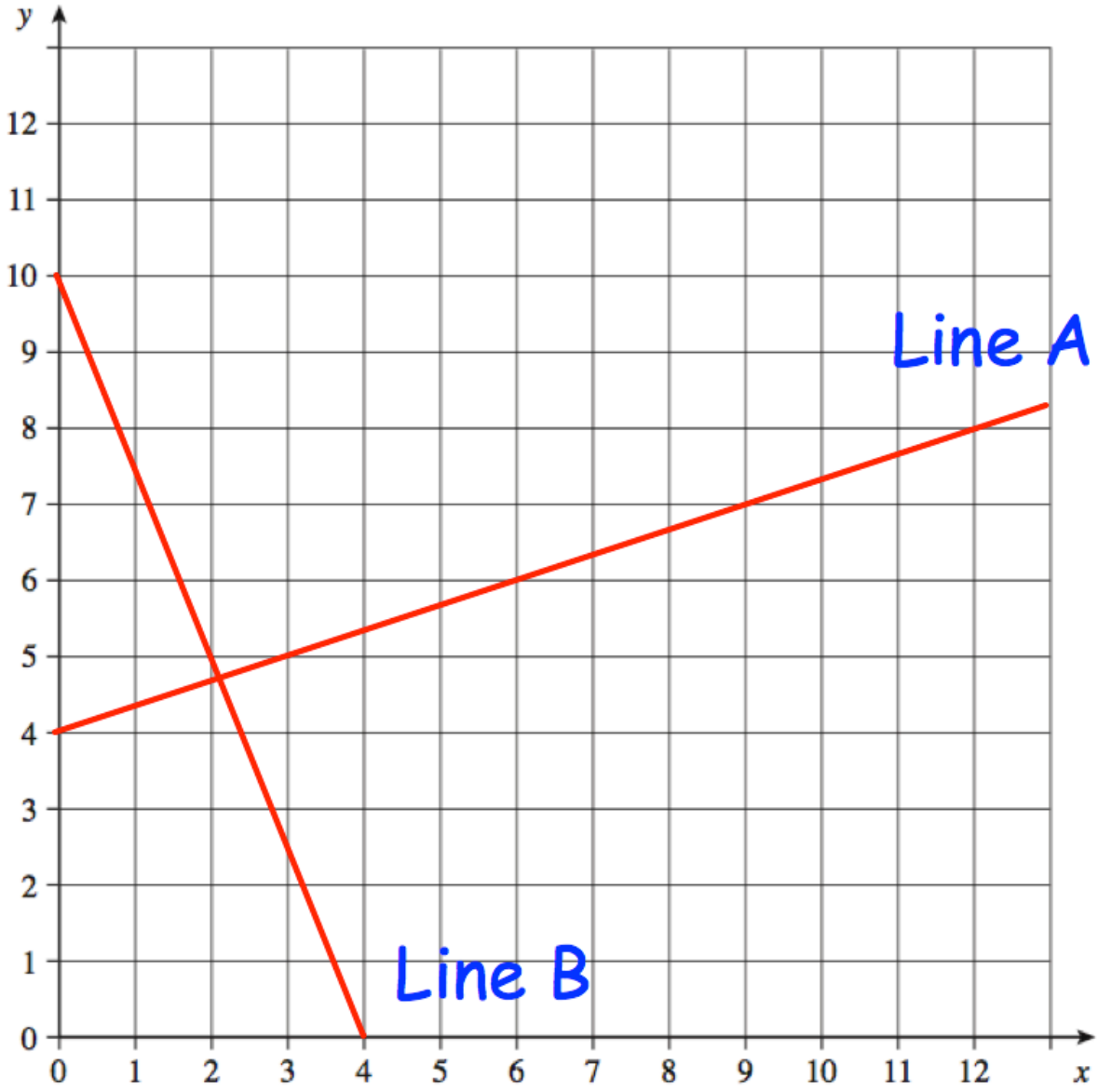
(4)

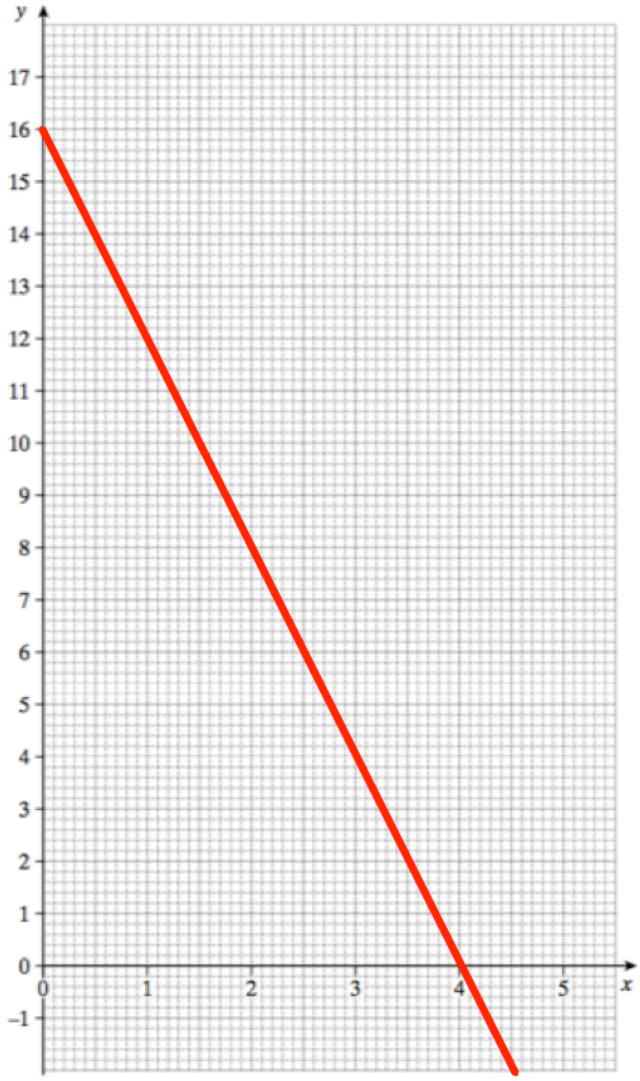
13. On the grid below, the lines A and B are drawn.



Are the lines A and B perpendicular?
Explain your answer.

(3)

14.



Shown above is the graph of line L

The line M is parallel to line L and passes through the point (1, 6)

Find the equation of line M.

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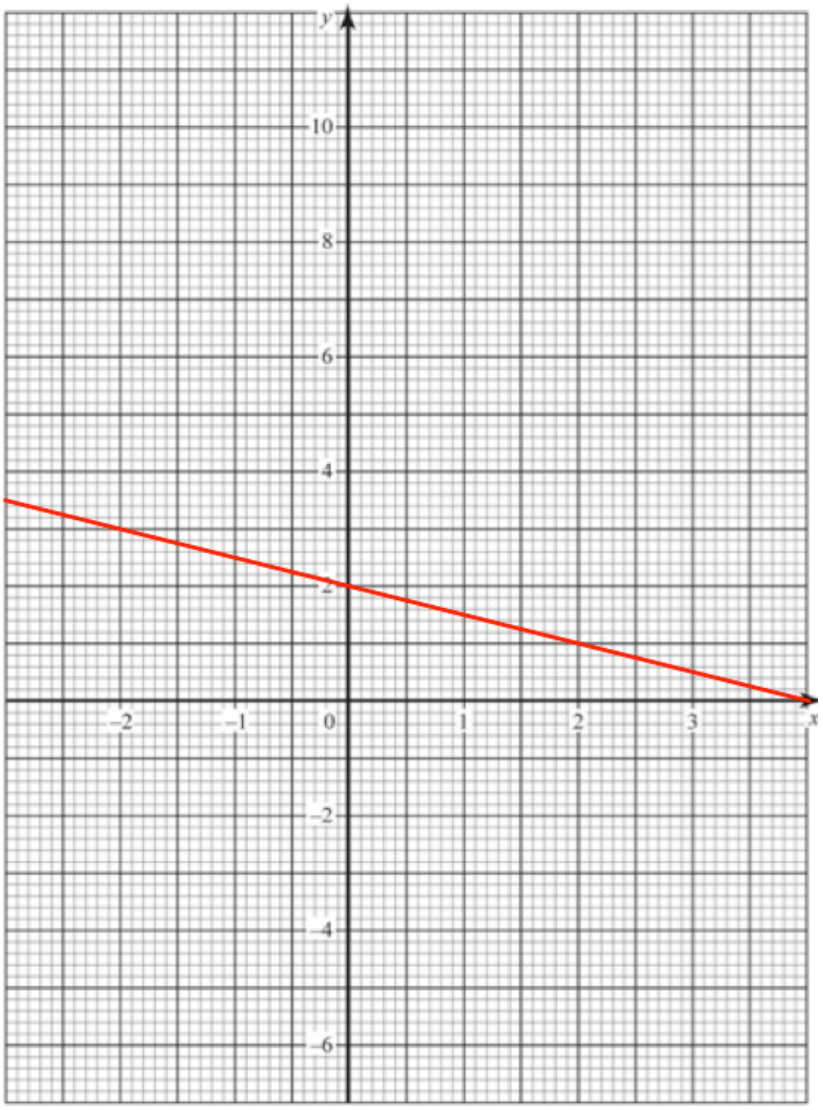
(3)

15.



The straight line L has equation $y = -\frac{1}{2}x + 2$

(a) Write down the equation of a line parallel to L

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(1)

(b) Find an equation of the line that goes through the point (1, 6) and is perpendicular to L

.....

(3)

16. The straight line L has equation $y = 3x + 2$
The straight line M is parallel to line L and passes through the point (5, –1).

Find the equation of line M

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(3)

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17. The straight line K has equation $y = 2x – 5$
The straight line J is perpendicular to line K and passes through the point (–4, 8).

Find the equation of line J

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(3)

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18. A straight line, L, is perpendicular to the line with equation $y = 2x + 3$
L passes through the point (10, 3)

Find an equation for the straight line L.

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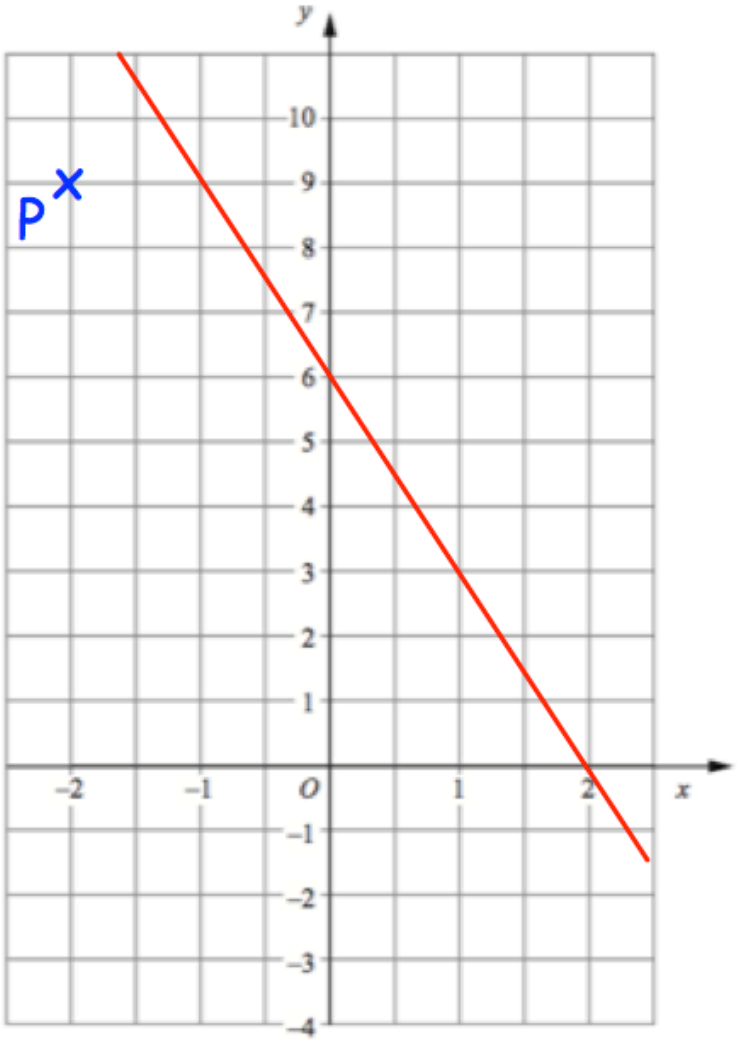
(3)

19. The line L is drawn on the grid.



(a) Find the equation of L.

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(3)

The point P has coordinates (–2, 9).

(b) Find an equation of the line that is parallel to L and passes through P.

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(2)

20. The line L passes through the points (–4, 0) and (2, –2)
The line M passes through the points (3, 8) and (2, 2)

Are the lines L and M perpendicular?
Show your workings

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(4)

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21. A, B and C have coordinates (2, 9), (10, –7) and (6, k) respectively.
AB is perpendicular to AC

Find k

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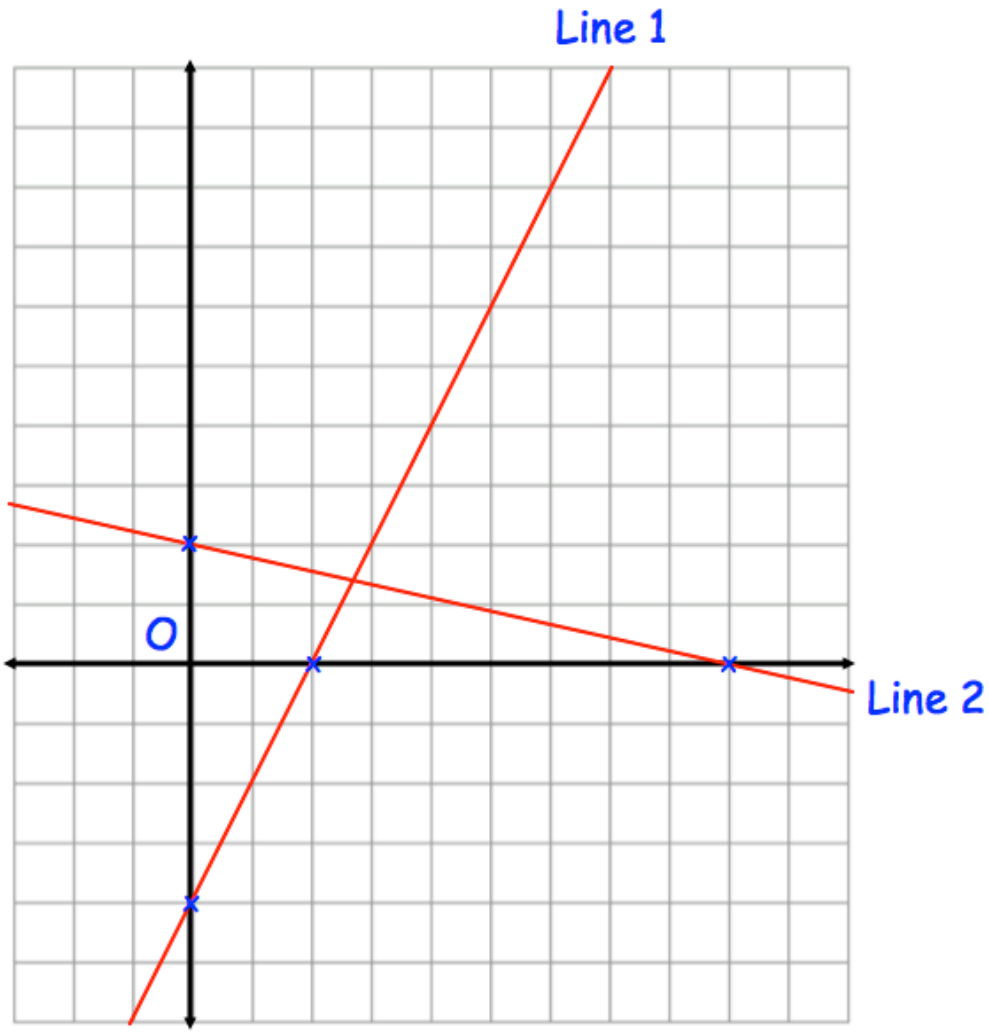
(3)

28. Shown are two straight lines drawn on the grid.



Line 1 has equation $y = 3x - 12$

(a) Find the equation of Line 2

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(4)

(b) Are the two lines perpendicular?
Explain your answer.

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(1)