Name:

Level 2 Further Maths

Equation of a Line

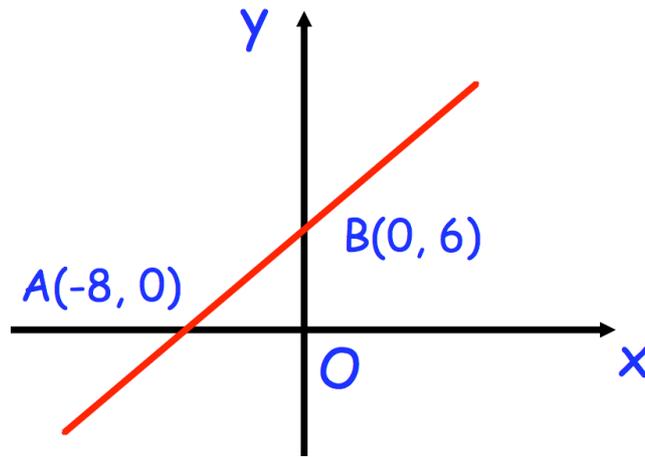**Corbettmaths**

Ensure you have: Pencil or pen

Guidance

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

Revision for this topic

www.corbettmaths.com/more/further-maths/

1. A straight line passes through the point A (−8, 0) and the point B (0, 6)
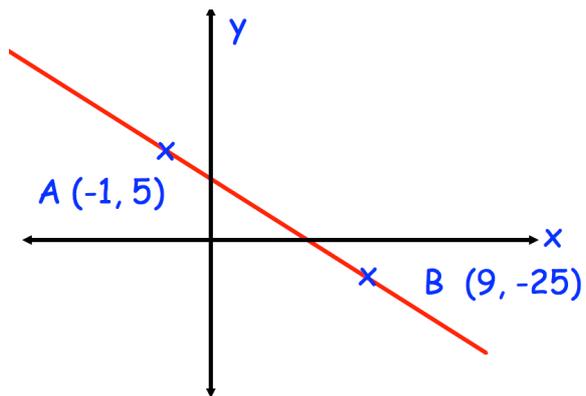

(a) Find the equation of the line

....

(2)

(b) Work out the coordinates of the midpoint of AB

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(2)

(c) Work out the area of triangle OAB

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(1)

2.

Find the equation of the line

....

(3)

3.
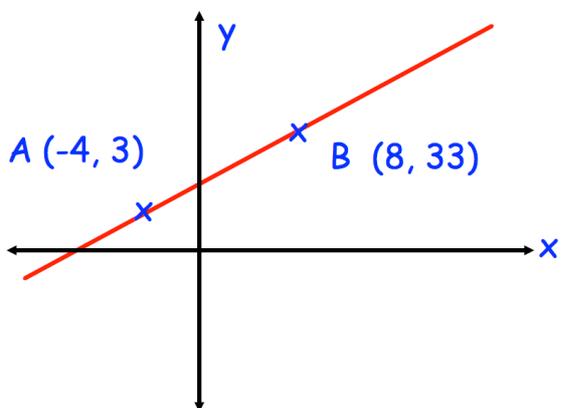
Find the equation of the line

....

(3)

4.   Find the equation of the straight line that passes through (−10, −5) and (−7, 4)

....

(3)

5.   Do the points (1, 4), (4, 10) and (9, 20) lie in a straight line?

....

(3)

6.   Where does the line $5x + 4y - 10 = 0$ cross the x-axis?

....

(2)

7.   A straight line has equation $3x - 4y = 24$

The line crosses the y-axis at the point C
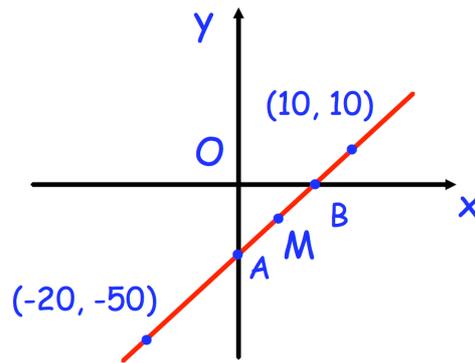The line crosses the x-axis at the point D.
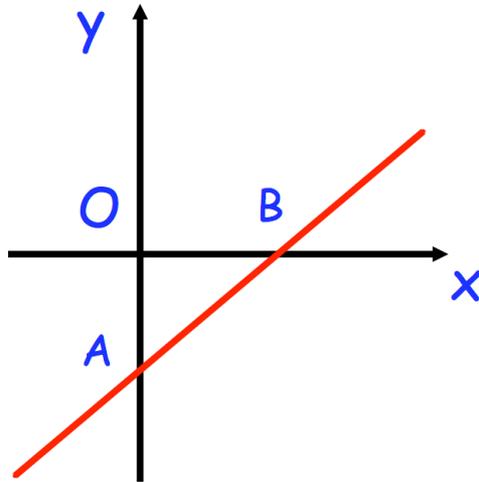
Work out the area of triangle OAB

....

(4)

8.   Find the gradient of the straight line with equation $8x + 3y = 30$

....

(2)

9. The line below passes through the point (−20, −50) and (10, 10)

The line meets the y-axis at the point A and the x-axis at the point B.

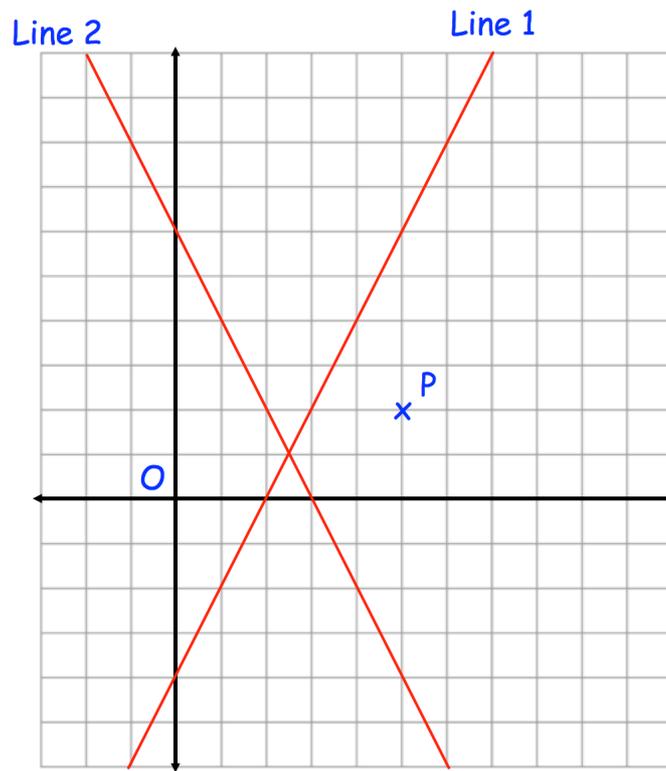M is the midpoint of A and B.

Find the coordinates of the point M.

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(5)

10. Work out the point of intersection of the lines

$$y = 2x + 1 \quad \text{and} \quad y = 4x - 2$$

....

(3)

11.

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

(a) Find the coordinates of P

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(3)

(b) Find the equation of Line 2

....

(3)

12. Shown below are the lines $x = 3$ $y = 2$ and $3x + 2y = 18$
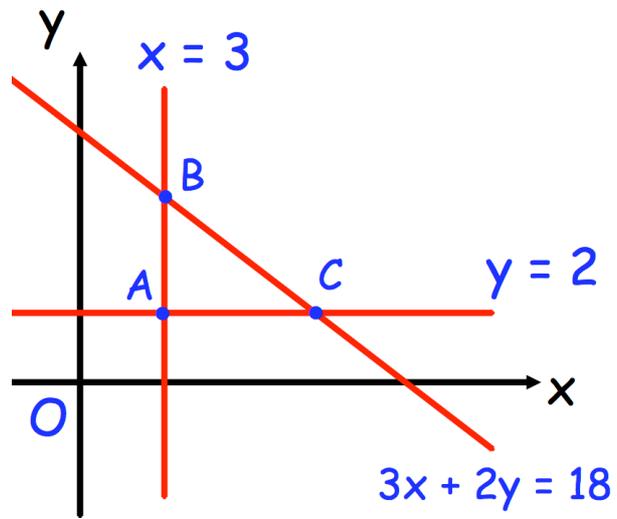
Find the area of triangle ABC

....

(5)

13. The straight line l_1 has an equation $4x + 2y + 1 = 0$
    The straight line l_2 has an equation $y = 5 - x$

    The lines l_1 and l_2 intersect at the point A

    Work out the coordinates of A

    ……………………..
    (4)

14. The lines $y = x - 7$ and $y = 3x - 19$ intersect at the point A.

    The point B has coordinates $(-2, 11)$

    Find the equation of the line that passes through A and B.

    ……………………..
    (5)

15. A line has equation y = 2x + 6
The line crosses the x–axis at the point A
The line crosses the y–axis at the point B
The point C has coordinates (1, 9)
The point D is the midpoint of AB

Find the equation of the line that passes through C and D

....

(5)

16.   Line l_1 passes through the points (1, 5) and (7, 8)

(a) Find the equation of the line l_1

....

(3)

The line l_1 meets the x-axis at the point A

(b) Find the coordinates of the point A

....

(2)

Line l_2 passes through the origin and has a gradient of 2.

The lines l_1 and l_2 intersect at the point B.

(c) Find the area of the triangle OAB

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(4)