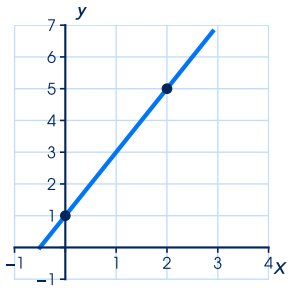
GCSE HIGHER · REVISION MAT 2

Equations of straight lines

1 Write down the equation of the line with gradient 2 that passes through (0, –3).

2 Find the equation of this line.



3 Which two of these lines are parallel?

$y = 3x + 1$

$y = 1 + 2x$

$2y = 6x - 4$

Explain how you know.

4 Find the equation of the line through (–1, 4) and (3, –4).

5 Find the gradient and y-intercept of the line

$3x + 2y = 12$

6 The lines $y = 2x - 1$ and $y = 8 - x$ meet at P.

Find the area of the triangle formed by the two lines and the y-axis.

7 Show that the line through (1, 2) and (3, 6) is perpendicular to $x + 2y = 5$.

8 Line L passes through (4, 3) and is perpendicular to $y = 2x - 5$.

Find where L crosses the x-axis.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

Equations of straight lines

1 $y = 2x - 3$

2 Intercept 1, gradient $\frac{4}{2} = 2$

$y = 2x + 1$

3 $2y = 6x - 4 \Rightarrow y = 3x - 2$

$y = 3x + 1$ and $2y = 6x - 4$ (both gradient 3)

4 Gradient $\frac{-8}{4} = -2$

$4 = 2 + c \Rightarrow c = 2$

$y = -2x + 2$

5 $2y = -3x + 12$

$y = -1.5x + 6$

Gradient -1.5, intercept 6

6 $2x - 1 = 8 - x \Rightarrow P(3, 5)$

Base on y-axis: $8 - (-1) = 9$

Height 3

Area = 13.5 units^2

7 Gradient 1: $\frac{6 - 2}{3 - 1} = 2$

$x + 2y = 5 \Rightarrow$ gradient $-\frac{1}{2}$

$2 \times -\frac{1}{2} = -1$, so perpendicular.

8 Gradient $-\frac{1}{2}$: $3 = -2 + c$

$y = -\frac{1}{2}x + 5$

$y = 0 \Rightarrow (10, 0)$

Mr&Mrs MATHS