Equations of parallel and perpendicular lines

42

maths-school.co.uk

Name:

Find the equation of the line that is parallel to:

a) $y = -\frac{1}{7}x + 5$ passing through (0,3)

$$y = -\frac{1}{7}x + 3$$

b) $y = 3x - 6$ passing through (0, 2)

$$y = 3x + 2$$

c) $y = -\frac{1}{5}x + 7$ passing through (0, -3)

$$y = -\frac{1}{5}x - 3$$

Find the equation of the line that is perpendicular to:

d) $y = -\frac{1}{5}x + 3$ passing through (0,4)

$$y = 5x + 4$$

e) $y = \frac{1}{2}x - 3$ passing through (0, 7)

$$y = -2x + 7$$

f) $y = 3x + 1$ passing through (0, -4)

$$y = -\frac{1}{3}x - 4$$

Find the equation of the line that is parallel to:

g) $y = 3x + 4$ passing through (1,6)

$$y = 3x + 3$$

h) $y = 2x + 3$ passing through (3,0)

$$y = 2x - 3$$

i) $y = -x + 5$ passing through (4, –7)

$$y = -x - 3$$

j) $y = -4x + 3$ passing through (–1 ,9)

$$y = -4x + 5$$

Find the equation of the line that is perpendicular to:

k) $y = -\frac{1}{5}x + 5$ passing through (10,22)

$$y = 5x - 28$$

l) $y = \frac{1}{3}x - 3$ passing through (2, –8)

$$y = -3x - 2$$

m) $y = -\frac{1}{4}x + 4$ passing through (2, 12)

$$y = 4x + 4$$

Exam question:

A straight line, L, passes through the point with coordinates (4, 4) and is perpendicular to the line with equation $y = 2x + 3$.

Find an equation of the straight line L

$$y = -\frac{1}{2}x + 6$$