Finding Gradients from Coordinates

Find the gradients of the straight lines through these pairs of points.

(a) (0, 0) and (2, 8)

(b) (0, 0) and (8, 2)

(c) (3, 0) and (5, 6)

(d) (3, 0) and (5, 5)

(e) (0, 8) and (4, 0)

(f) (1, 5) and (3, 1)

(g) (1, 5) and (3, -1)

(h) (3, 3) and (9, -3)

(i) (2, 4) and (-2, 16)

(j) (4, 4) and (-8,-2)

(a) 4

(b) $\frac{1}{4}$

(c) 3

(d) $\frac{5}{2}$

(e) -2

(f) -2

(g) -3

(h) -1

(i) -3

(j) $\frac{1}{2}$

(k) A line with a gradient of 3 passes through the points (2, 6) and (4, a). Find the value of a.

(l) A line with gradient -2 passes through the points (5, 5) and (b, 9). Find the value of b.

(m) A line with gradient ½ passes through the points (c, 8) and (-1, 5). Find the value of c.

(k) $a = 12$

(l) $b = 3$

(m) $c = -7$

(n) Find the gradient of the line joining the points (4, 5) and (6, 5). What is the equation of this line?

(o) Find the gradient of the line joining (9, -1) and (9, 5). What is the equation of this line?

(n) $y = 5$
gradient = 0

(o) gradient = undefined
$x = 9$