

Question 1: Write down the gradient of each of these lines.

(a) y = 3x + 1 (b) y = 2x - 5 (c) y = 7x + 4 (d) y = 10x + 5(e) y = x - 2 (f) y = 6x (g) y = -4x + 3 (h) y = -3x - 7(i) $y = \frac{1}{2}x + 3$ (j) $y = -\frac{4}{5}x - 9$

Question 2: Write down where each of these lines cross the y-axis (y-intercept)

(a) $y = 2x + 3$	(b) $y = 7x + 1$	(c) $y = 3x - 2$	(d) $y = x - 5$
(e) y = 2x	(f) $y = -4x + 6$	(g) $y = -5x - 3$	(h) $y = -3x$
(i) $y = \frac{4}{3}x + \frac{2}{5}$	(j) $y = -\frac{2}{3}x - \frac{1}{2}$		

Question 3: Write down the equation of the lines below

- (a) gradient of 3 and y-intercept of 6 (b) gradient of 2 and y-intercept of -1
- (c) gradient of -4 and y-intercept of 3 (d) gradient of 8 and y-intercept of 4
- (e) gradient of 1 and passing though (0, 4) (f) passing through (0, -2) with gradient 4
- (g) gradient of -5 and passing through the origin.

Question 4:

- (a) Does the point (2, 5) lie on the line y = 3x 1?
- (b) Does the point (4, 1) lie on the line y = 3x + 1?
- (c) Does the point (3, 1) lie on the line y = x 3?
- (d) Does the point (5, 7) lie on the line y = -3x + 22?
- (e) Does the point (-4, -8) lie on the line y = -2x?
- (f) Does the point (-1, 8) lie on the line y = 2x + 11?
- (g) Does the point (12, 60) lie on the line y = 7x 18?

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Question 7: Find the equation of the straight line that passes through the points

(a) (0, 3) and (4, 19)	(b) (0, 2) and (6, 20)	(c) $(0, 0)$ and $(1, 4)$
(d) (0, –9) and (9, 0)	(e) (0, –6) and (7, 8)	(f) (-8, -10) and (0, 14)
(g) (0, 2) and (10, 7)	(h) (-4, 1) and (0, 7)	(i) (-4, 0) and (0, 18)

Question 8: Find the equation of the straight line that:

- (a) has a gradient of 4 and passes through the point (1, 10)
- (b) has a gradient of 2 and passes through the point (-3, 3)
- (c) has a gradient of 1 and passes through the point (5, 2)
- (d) has a gradient of -3 and passes through the point (-2, 8)
- (e) has a gradient of -5 and passes through the point (3, -1)
- (f) has a gradient of $\frac{1}{2}$ and passes through the point (4, 5)
- (g) has a gradient of $\frac{2}{5}$ and passes through the point (-5, -5)
- (h) has a gradient of $-\frac{2}{3}$ and passes through the point (9, 15)



Question 10: Find the equation of the straight line that passes through these pairs of points

(a) (2, 5) and (4, 11)
(b) (-4, 2) and (1, 7)
(c) (-5, -8) and (-4, -4)
(d) (-1, -2) and (-6, 3)
(e) (-6, -4) and (-3, 2)
(f) (3, 5) and (4, 1)
(g) (-5, 4) and (5, 2)
(h) (1, 6) and (5, 4)
(i) (-10, -5) and (-7, 4)

Question 11: Find the coordinates where the following lines cross the x-axis

(a) $y = 2x + 6$	(b) $y = -x + 4$	(c) $y = 3x + 9$
(d) $y = x - 5$	(e) $y = 4x + 1$	(f) $y = -2x + 10$
(g) $y = -4x - 10$	(h) $y = 5x + 3$	(i) $y = \frac{1}{2}x + 3$
(j) $x + y = 8$	(k) $4x + 2y + 7 = 0$	(l) $3x + 2y - 8 = 0$

Question 12: Find the gradients and the y-intercepts of each of these lines

(a) x + y = 10(b) x - y = 4(c) 2x + y = 6(d) 3x - y = -1(e) 8x + 2y + 9 = 0(f) 5x - 2y - 4 = 0(g) 7x = 1 - 2y(h) 15y - 6x = 8(i) $\frac{2}{3}x + 2y = 5$ (j) $\frac{1}{5}y - \frac{1}{2}x = 1$ (k) $\frac{2}{3}x + \frac{3}{4}y = \frac{1}{2}$

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Question 1: The point (5, -2) lies on which lines below

 $\begin{array}{ccc} \text{Line A} & \text{Line B} & \text{Line C} \\ y = x + 7 & y = -3x + 13 & y = 4x - 18 \end{array}$

$$\begin{array}{cc} {\rm Line \ D} & {\rm Line \ E} \\ y=-2x-8 & y=2x-12 \end{array}$$

Question 2: Do the points (1, 4), (4, 10) and (9, 20) lie in a straight line?

Question 3: 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, 8)

- (a) Find the coordinates of the point A
- (b) Find the coordinates of the point B
- (c) Find the equation of the straight line passing through the points A and C.



Question 5: Line 1 has equation y = 3x - 12

- (a) Find the coordinates of P
- (b) Find the equation of Line 2



Question 6: Lexi says the line below has an equation of y = -2x + 8Explain her mistake.

