

Fill in the Blanks

Finding the Equation of a Line Through Two Points

(x_1, y_1)	(x_2, y_2)	Find m using $\frac{y_2 - y_1}{x_2 - x_1}$	Gradient m	Find c using $y = mx + c$	Equation of Line
(1, 3)	(2, 5)	$\frac{5 - 3}{2 - 1} = \frac{2}{1}$	2	$3 = 2 \times 1 + c$ $c = 1$	$y = 2x + 1$
(2, 0)	(5, 9)	$\frac{9 - 0}{5 - 2} = \frac{9}{3}$	3	$0 = 3 \times 2 + c$ $c = -6$	$y = 3x - 6$
(4, 1)	(5, 6)	$\frac{6 - 1}{5 - 4} = \frac{5}{1}$	5	$1 = 5 \times 4 + c$ $c = -19$	$y = 5x - 19$
(7, 11)	(8, 10)	$\frac{10 - 11}{8 - 7} = \frac{-1}{1}$	-1	$11 = -1 \times 7 + c$ $c = 18$	$y = -x + 18$
(2, -3)	(5, 3)	$\frac{3 - (-3)}{5 - 2} = \frac{6}{3}$	2	$-3 = 2 \times 2 + c$ $c = -7$	$y = 2x - 7$
(3, -2)	(1, 8)	$\frac{8 - (-2)}{1 - 3} = \frac{10}{-2}$	-5	$-2 = -5 \times 3 + c$ $c = 13$	$y = -5x + 13$
(-6, -1)	(-2, 1)	$\frac{1 - (-1)}{-2 - (-6)} = \frac{2}{4}$	$\frac{1}{2}$	$-1 = \frac{1}{2} \times -6 + c$ $c = 2$	$y = \frac{1}{2}x + 2$
(9, 7)	(3, 9)	$\frac{9 - 7}{3 - 9} = \frac{2}{-6}$	$-\frac{1}{3}$	$7 = -\frac{1}{3} \times 9 + c$ $c = 10$	$y = -\frac{1}{3}x + 10$
$(\frac{1}{2}, -3)$	$(-\frac{1}{2}, -\frac{5}{2})$	$\frac{-2.5 - (-3)}{-0.5 - 0.5} = \frac{0.5}{-1}$	$-\frac{1}{2}$	$-3 = -0.5 \times 0.5 + c$ $c = -\frac{11}{4}$	$y = -\frac{1}{2}x - \frac{11}{4}$