

Given the two points in the first column, find slope. Then write the equation of the line containing those points in Point-Slope Form, Slope-Intercept Form, and Standard Form. Hint: This will be easiest if you complete the columns in order from left to right.

**You must show work for credit. Staple any additional work behind this sheet.**

	Points	Slope	Point-Slope Form	Slope-intercept Form	Standard Form
1	(5, -2) and (7, -1)	$\frac{-2 - (-1)}{5 - 7} = \frac{-1}{-2} = \frac{1}{2}$	$y + 2 = \frac{1}{2}(x - 5)$ $y + 1 = \frac{1}{2}(x - 7)$	$y = \frac{1}{2}x - \frac{9}{2}$ $\frac{5}{2} - \frac{4}{2}$	$x - 2y = 9$
2	(5, -3) and (2, 5)	$\frac{5 - (-3)}{2 - 5} = \frac{8}{-3} = -\frac{8}{3}$	$y + 3 = -\frac{8}{3}(x - 5)$ $y - 5 = -\frac{8}{3}(x - 2)$	$y = -\frac{8}{3}x + \frac{31}{3}$ $\frac{16}{3} + \frac{15}{3}$	$8x + 3y = 31$
3	(-1, 12) and (4, -8)	$\frac{12 - (-8)}{-1 - 4} = \frac{20}{-5} = -4$	$y - 12 = -4(x + 1)$ $y + 8 = -4(x - 4)$	$y = -4x + 8$	$4x + y = +8$
4	(5, -8) and (-7, 0)	$\frac{0 - (-8)}{-7 - 5} = \frac{8}{-12} = -\frac{2}{3}$	$y + 8 = -\frac{2}{3}(x - 5)$ $y = -\frac{2}{3}(x + 7)$	$y = \frac{2}{3}x - \frac{14}{3}$	$2x + 3y = -14$
5	(-5, -6) and (-4, -2)	$\frac{-2 - (-6)}{-4 - (-5)} = \frac{4}{1} = 4$	$y + 6 = 4(x + 5)$ $y + 2 = 4(x + 4)$	$y = 4x + 14$	$4x - y = -14$
6	(6, -2) and (5, -6)	$\frac{-2 - (-6)}{6 - 5} = \frac{4}{1} = 4$	$y + 2 = 4(x - 6)$ $y + 6 = 4(x - 5)$	$y = 4x - 26$	$4x - y = +26$
7	(9, 2) and (6, 3)	$\frac{3 - 2}{6 - 9} = \frac{1}{-3} = -\frac{1}{3}$	$y - 2 = -\frac{1}{3}(x - 9)$ $y - 3 = -\frac{1}{3}(x - 6)$	$y = -\frac{1}{3}x + 5$	$x + 3y = 15$
8	(5, 1) and (2, -3)	$\frac{1 - (-3)}{5 - 2} = \frac{4}{3}$	$y - 1 = \frac{4}{3}(x - 5)$ $y + 3 = \frac{4}{3}(x - 2)$	$y = \frac{4}{3}x - \frac{17}{3}$ $-\frac{8}{3} - \frac{2}{3}$	$4x - 3y = 17$
9	(4, 2) and (7, 5)	$\frac{5 - 2}{7 - 4} = \frac{3}{3} = 1$	$y - 2 = x - 4$ $y - 5 = x - 7$	$y = x - 2$	$x - y = 2$
10	(0, 12) and (-8, -6)	$\frac{12 - (-6)}{0 - (-8)} = \frac{18}{8} = \frac{9}{4}$	$y - 12 = \frac{9}{4}(x)$ $y + 6 = \frac{9}{4}(x + 8)$	$y = \frac{9}{4}x + 12$	$9x - 4y = -48$