

Name: *Key*

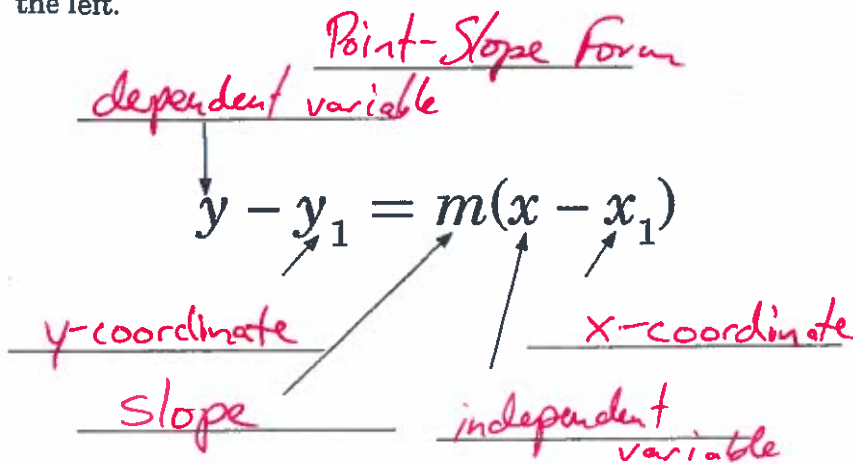
Class:

Topic:

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Main Ideas/Questions	Notes
the POINT-SLOPE FORMULA	Used to write the equation of a line when given a point (x_1, y_1) and the slope of the line (m)
	Formula: $y - y_1 = m(x - x_1)$ *Be sure to distribute and solve for y !
EXAMPLES! Find the equation of the line given the point and slope.	1. $(4, 1)$; slope = 2 $y - 1 = 2(x - 4)$ $y + 1 = 2x - 8$ $y = 2x - 7$
	2. $(2, 4)$; slope = $\frac{1}{2}$ $y - 4 = \frac{1}{2}(x - 2)$ $y - 4 = \frac{1}{2}x - 1$ $+4$ $+4$ $y = \frac{1}{2}x + 3$
	3. $(-6, 0)$; slope = $\frac{2}{3}$ $y - 0 = \frac{2}{3}(x + 6)$ $y = \frac{2}{3}x + 4$
	4. $(-8, -1)$; slope = $-\frac{3}{4}$ $y + 1 = -\frac{3}{4}(x + 8)$ $y + 1 = -\frac{3}{4}x - 6$ -1 -1 $y = -\frac{3}{4}x - 7$
	5. $(4, -3)$; slope = -1 $y + 3 = -1(x - 4)$ $y + 3 = -1x + 4$ -3 -3 <hr/> $y = -1x + 1$
	6. $(0, -9)$; slope = 4 $y + 9 = 4(x - 0)$ $y + 9 = 4x - 0$ -9 -9 <hr/> $y = 4x - 9$

- dependent variable ▶
- slope ▶
- independent variable ▶
- x-coordinate of point on the line ▶
- y-coordinate of point on the line ▶



Lesson 4-3

Vocabulary Link Write the point-slope formula and the slope formula below. Explain how the two formulas are related.

slope formula $m = \frac{y_2 - y_1}{x_2 - x_1}$	point-slope form $y - y_1 = m(x - x_1)$
How are they related? Same expressions with one being multiplied by slope and one being divided.	