



POINT-SLOPE

Formula

PARTNER ACTIVITY



POINT-SLOPE FORMULA

Notes & Partner Activity!

Objective: Students will practice writing linear equations either given a point and the slope of the line, or two points in slope-intercept form, using the point-slope formula.

Notes: Organized Cornell notes on using the point-slope formula to find the equation of a line with a given slope and passing through a certain point. The back side of the notes is writing linear equations given two points. Students must first use the slope formula, then the point-slope formula.

Partner Puzzle: Students complete the puzzle activity in pairs to practice the skills. They are assigned either Partner A or Partner B and are to do their side of the paper. They will need a sheet of notebook paper in order to work out the problems. There is a mix of problems in which some are given point and slope, and some are two points. After each set of problems, they check with each other to identify matching answers. They should have matching answers in order to complete the puzzle. If not, they work together to identify any mistakes.

Name: _____	Class: _____		
Topic: _____	Date: _____		
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: *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	2. $(2, 4)$; slope = $\frac{1}{2}$	
	3. $(-6, 0)$; slope = $\frac{2}{3}$	4. $(-8, -1)$; slope = $-\frac{3}{4}$	
	5. $(4, -3)$; slope = -1	6. $(0, -9)$; slope = 4	

WHAT IF YOU ARE GIVEN TWO POINTS?	To write a linear equation given two points, (x_1, y_1) and (x_2, y_2) , follow this process: Use the Slope Formula \rightarrow Use the Point-Slope Formula
EXAMPLES! Find the equation of the line given the two points.	7. $(-3, 7)$ and $(1, -1)$
	8. $(-6, -7)$ and $(3, -4)$
	9. $(2, -1)$ and $(4, -6)$
	10. $(-3, -8)$ and $(2, 7)$
	11. $(-6, -3)$ and $(-4, -1)$
	12. $(-4, 7)$ and $(6, 2)$

Partner A: _____	Partner B: _____														
WHY WAS THE CAT KICKED OUT OF SCHOOL?															
Either given a point and a slope, or two points, write each equation in slope-intercept form. Partner A should do the left side and Partner B should do the right side. One will have a letter and the other a number. Write the number in the matching numbered box at the bottom of the page.															
Set 1															
E. $(-3, 0)$; slope = $\frac{2}{3}$	8. $(2, -2)$; slope = 1														
H. $(6, 2)$ and $(-3, -7)$	3. $(4, 1)$; slope = $\frac{3}{2}$														
S. $(-4, -6)$ and $(3, 8)$	10. $(3, 4)$ and $(-6, -2)$														
W. $(-2, -8)$ and $(6, 4)$	5. $(-3, -4)$; slope = 2														
Set 2															
A. $(-9, 17)$; slope = $-\frac{4}{3}$	12. $(-4, -5)$; slope = $\frac{1}{2}$														
C. $(-3, 9)$ and $(0, 1)$	6. $(3, 1)$ and $(9, -7)$														
E. $(1, -8)$; slope = -1	7. $(3, -7)$; slope = $-\frac{8}{3}$														
A. $(2, -2)$ and $(8, 1)$	2. $(5, -12)$ and $(-3, -4)$														
Set 3															
H. $(-12, 4)$ and $(0, 2)$	9. $(-6, -4)$ and $(12, 11)$														
E. $(6, 6)$; slope = $\frac{5}{6}$	4. $(2, 8)$; slope = $\frac{7}{2}$														
H. $(-8, -4)$ and $(4, -7)$	11. $(5, 1)$ and $(10, 5)$														
T. $(-5, -7)$; slope = $\frac{4}{5}$	13. $(6, 1)$; slope = $\frac{1}{6}$														
A. $(-4, 13)$ and $(-2, 6)$	1. $(-4, -5)$; slope = $-\frac{1}{4}$														
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