Can you tell if equations are proportional?

Name:

1. What can you tell about an equation just by looking at it?

This equation ***is*** proportional: $y = 5x$

This equation ***is not*** proportional: $y = 5x + 7$

What is different about the two equations? _____

Graph each of the equations above on Grapher. Can you explain why one equation is proportional and the other one is not?

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2. Use Grapher to plug in the following equations and determine if they are proportional.

	Proportional	Not Proportional
$y = 2x + 5$		
$y = x$		
$y = -30x$		
$y = 12x - 3$		
$y = 0.43x$		
$y = -x$		
$y = \frac{1}{3}x - 0.25$		

What do you notice about the 2 types of equations? What makes an equation proportional?

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3. Decide if the following equations are proportional without graphing. Explain how you can tell.

Equation	Proportional	Not Proportional	Explanation
$y = 2x - 1$			
$a = -\frac{1}{3}b$			
$f = n + \frac{1}{4}$			
$h = 25w$			