

Direct Variation

9/18

Direct Variation - A graph/equation that starts at zero and has a constant rate of change.

↳ Proportional Relationship
(Unit Rates are the Same)

How to Find a Direct Variation: Divide $\frac{y}{x}$

Equation: $y = kx$

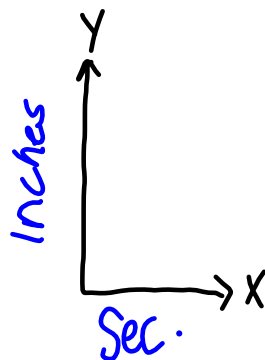
$k = \frac{y}{x}$
Constant/unit Rate

Sep 19-9:49 AM

A turtle travels 42 inches in 12 seconds. What is his rate? Write a direct variation equation.

$$\frac{y}{x} = \frac{42}{12} = 3.5 \text{ in/s.}$$

$$\frac{y}{x} = \frac{\text{inches}}{\text{Sec.}}$$



Direct Variation Equation

$$y = \underline{k}x$$

$$y = 3.5x$$

Sep 19-9:55 AM

Joe buys 5 shirts for a total of \$35. If each shirt is the same price, find the price per shirt and write a direct variation equation.

$\frac{y}{x}$

$$\frac{35}{5} = \$7 \text{ per Shirt}$$

$$y = 7x$$

Cost \rightarrow y x \rightarrow # of Shirts

Sep 19-10:05 AM

Figure out if the table is proportional, and if so, write an equation.

		5	5	5	
x	2	4	6		
y	10	20	30		
				$\frac{y}{x}$	

$$y = 5x$$

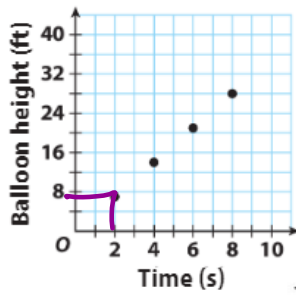
		4	4	4
x	4	6	8	
y	16	24	32	

$$y = 4x$$

Sep 19-10:01 AM

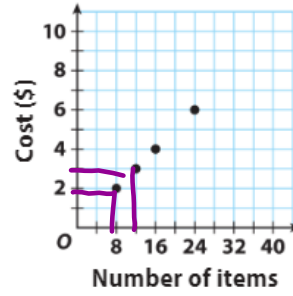
Write an equation of the form $y = kx$ for the relationship shown in each graph. (Example 2)

5.



$$y = 3.5x$$

6.



$$y = \frac{1}{4}x$$

$$\frac{1}{4} \quad \frac{1}{4}$$

Sep 18-9:33 AM