

Direct

Relationships

Divide: $k = \frac{y}{x}$

Equation: $y = kx$

Tables: charts: Divide to

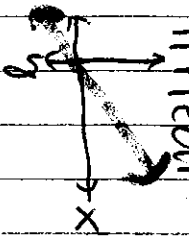
show all constants (k) are all the same

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

missing value:

solve using a proportion $\frac{y}{x} = \frac{y}{x}$

Graph: linear
up/up



Inverse

Relationships

Multiply to find k
 $k = y \cdot x$

Equation: $y = \frac{k}{x}$

Tables/charts: multiply to show all constants are the same

$$k = y \cdot x$$

missing value:

$$y \cdot x = y \cdot x$$

Graph: curve
up/down



Conversions

unit rate:
÷ to get
per 1 item
amount

ex) $\frac{\$380}{4 \text{ hrs}} = \frac{\$95}{1 \text{ hr}}$
 $380 \div 4$

Conversions: use
multiplication & ratios

$\frac{\text{ET}}{\text{hr}}$ to $\frac{\text{min}}{\text{sec}}$

$\frac{\$}{\text{HR}}$ to $\frac{\$}{\text{min}}$

ex) $\frac{\$9}{1 \text{ HR}} \cdot \frac{1 \text{ HR}}{60 \text{ min}} \cdot \frac{100¢}{\$1} = \frac{900¢}{60 \text{ min}} = \frac{15¢}{\text{min}}$

Name: _____

Date: _____ Block: _____

Direct Variation

① $5x + 2y = 0$ Solve for y .

② $3y + 4x = 8$ Solve for y .

③ Write an equation of the direct variation that includes the point $(-3, 6)$.

④

x	y	$\frac{y}{x}$
2	-1	
4	1	
6	3	
9	4.5	

Write
the eq.

⑤ A canary's heart beats 200 times in 12 seconds. Use a proportion to find out how many times its heart beats in 42 seconds.

⑥ Suppose you traveled 66 kilometers in 1.25 hours. Moving at the same speed, how many kilometers would cover in 2 hours?

$$\textcircled{7} \quad \frac{x+3}{4} = \frac{7}{8}$$

$$\textcircled{8} \quad \$2/1\text{b} = \text{---} \$/\text{oz}$$

⑨ 1 mi in 300 s (Express in miles per hour)

⑩ \$57 for 6 hours. (unit rate)

Identity / No Solution

⑪ $18x - 5 = 3(6x - 2)$

⑫ $3(x - 4) = 3x - 12$

⑬ What percent of 40 is 20?

⑭ 20% of what number is 40?

⑮ 8% of 125 is what number?