Algebra 2 Bellwork Tuesday, October 13, 2015

1. Each of the ordered pair is from the same direct variation. Find the missing value

a) $(4,18)$ & $(x,45)$ b) $(18,6)$ & $(24,y)$

$x =$ $y =$

2. The number of words I can type varies directly with the number of minutes that I've been typing. I can type 496 words in 8 minutes.

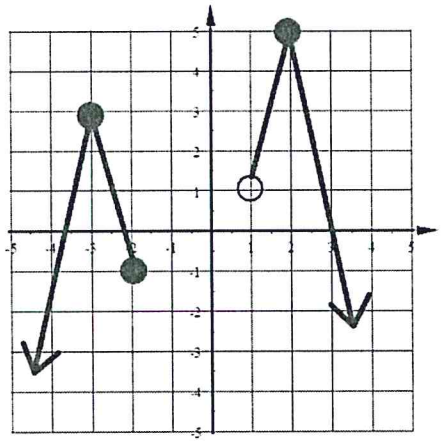
a) Model this situation with a direct variation equation.

EQ:

b) Find the number of words that I can type in 20 minutes.

words =

3. State the Domain and Range of this graph.



Domain:

Range:

4. Use these functions: $f(x) = x - 7$ $g(x) = x^2 - 2x$ $h(x) = \frac{x+12}{2x-1}$

a) Find $f(h(3))$ = b) Find $g(f(x))$ =

Algebra 2 Bellwork Tuesday, October 13, 2015 ANSWERS

1. Each of the ordered pair is from the same direct variation. Find the missing value

a) $(4, 18)$ & $(x, 45)$ $\quad \frac{18}{4} = \frac{45}{x}$ $\quad x = 10$

b) $(18, 6)$ & $(24, y)$ $\quad \frac{6}{18} = \frac{y}{24}$ $\quad y = 8$

2. The number of words I can type varies directly with the number of minutes that I've been typing. I can type 496 words in 8 minutes.

a) Model this situation with a direct variation equation.

$k = \frac{496 \text{ words}}{8 \text{ min}} = 62 \text{ words/min}$

$y = \#\text{words}$, $x = \#\text{min}$

EQ: $y = 62x$

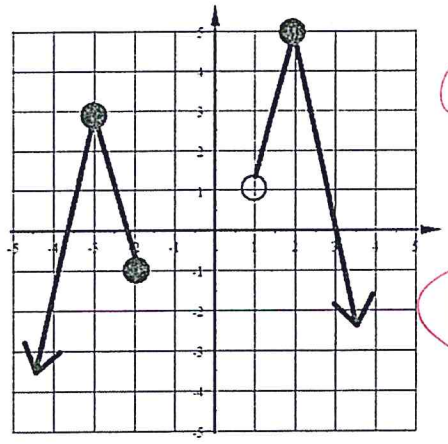
b) Find the number of words that I can type in 20 minutes.

direct variation eq: $y = 62(20)$

proportion: $\frac{496w}{8m} = \frac{y}{20m}$

words = 1240

3. State the Domain and Range of this graph.



Domain: $x \leq -2, \; x > 1$

Range: $y \leq 5$

4. Use these functions: $f(x) = x - 7$ $\quad g(x) = x^2 - 2x$ $\quad h(x) = \frac{x+12}{2x-1}$

a) Find $f(h(3))$ = -4

$h(3) = \frac{3+12}{2(3)-1} = \frac{15}{5} = 3$

$f(h(3)) = f(3) = 3 - 7 = -4$

b) Find $g(f(x))$ = $x^2 - 16x + 63$

$= (x-7)^2 - 2(x-7)$

$= x^2 - 14x + 49 - 2x + 14$

$= x^2 - 16x + 63$