TH-A1 Algebra 1 Week 28 4/20

1.) $(4, 9)$ and $(12, y)$ — x, y; $*3$, $*3$ → 27

1.) Find k
2.) Find $y = kx$
3.) solve

$y = kx$

$k = \frac{y}{x} = \frac{9}{4}$

$y = \frac{9}{4}x$

$y = \frac{9}{4}(12) = 27$

2.) $(2, 6)$ and $(x, 27)$

$y = kx$

$k = \frac{y}{x} = \frac{6}{2} = 3$

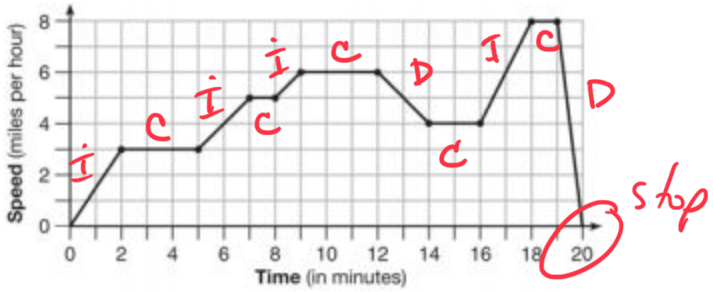
$y = 3x$

$\frac{27}{3} = \frac{3x}{3}$

$x = 9$

Algebra 1 Chapter 5 Pre-Test

1.) (2.5 pts each, 10 pts total) (5-1) The graph below represents Arlene's speed during her 20-minute jog around her neighborhood. Use the graph to answer the following questions.



a) During which intervals was Arlene's speed increasing?

0→2 , 5→7 8-9 16-18

b) During which intervals was Arlene's speed decreasing?

12-14 19-20

c) During which intervals was Arlene's speed constant?

2-5 , 7-8, 9-12, 14-16, 18-19

d) What time(s) did Arlene stop?

20

2.) (5 pts total) (5-2) Find the domain and range of each relation.

a) {(-2,7), (-1,4), (0,9), (3,2)}

Domain: (x) {-2,-1,0,3}

Range: (y) {7,4,9,2}

3.) (5 pts each, 10 pts total) (5-2) Determine whether each relation is a function.

a) {(-8,4), (-4,4), (-1,2), (7,2)}

function

b) {(-6,3), (-5,-9), (-5,0), (-2,3)}

not function

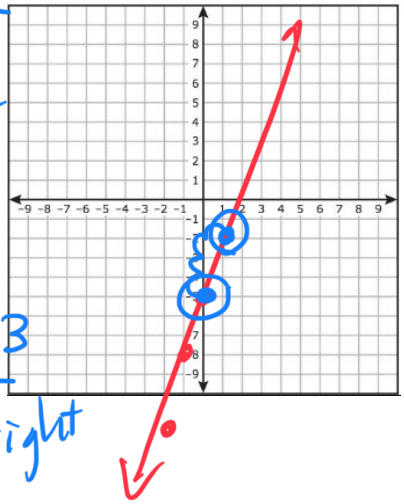
4.) (10 pts each, 20 pts total) (5-3) Use a table to graph each of the following functions.

a) $y = 3x - 5$ ← y-int

x	y = 3x - 5	y
-2	3(-2)-5 =	-11
-1	3(-1)-5 =	-8
0	3(0)-5	-5
1		
2		

1.) Plot y-int
2.) Use slope to find 2nd pt

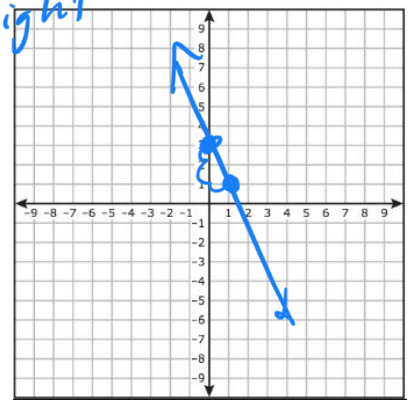
slope = 3 up 3 / 1 right



b) $y = -2x + 3$ ← y-int

slope = -2 down 2 / 1 right

x	y = -2x + 3	y
-2		
-1		
0		
1		
2		



5.) (5 pts each, 15 pts total) (5-4) Analyze table and write the function rule.

x	f(x)
1	4
3	6
7	10
8	11

+3, +3, +3, +3

$x+3=y$

$x+3=f(x)$

$x+3=y$

x	f(x)
0	0
2	7
4	14
10	35

x	f(x)
-4	10
-2	12
1	15
3	17

6.) (5 pts each, 10 pts total) (5-5) For the data in the table, tell whether y varies directly with x. If it does, write an equation for direct variation.

x	f(x)
-3	9
0	0
2	14
8	20

$k = y/x$

$9/-3 = -3$

good!

$14/2 = 7$

not direct variation

By definition, $(0,0)$ is direct variation

x	f(x)
-2	4
0	0
3	-6
4	-8

$k = y/x$

$4/-2 = -2$

Good!

$-6/3 = -2$

$-8/4 = -2$

$y = kx$

$y = -2x$

direct variation

7.) (2.5 pts each, 5 pts total) (5-5) Is each of the following equations an example of direct variation? If so, find the constant of variation.

a) $-3x + 4y = 0$

$+3x \quad +3x$

yes!

$\frac{4y}{4} = \frac{3x}{4}$

$y = kx$

$y = \frac{3}{4}x$

$k = \frac{3}{4}$

b) $y + 5 = 2x$

$-5 \quad -5$

$y = 2x - 5$

not direct variation

8.) (5 pts each, 10 pts total) (5-5) Each of the following ordered pairs are examples of direct variation. Find each missing value.

a) (3, 8) and (x, 20)

b) (4, y) and (12, -9)

x y

$k = \frac{y}{x} = \frac{-9}{12} = -\frac{3}{4}$

$y = -\frac{3}{4}x$

$y = -\frac{3}{4}(4) = y = -3$

9.) (5 pts each, 15 pts total) (5-6) Find the fifth, tenth, and hundredth terms of each sequence.

start + difference (n-1)

a) 6, 14, 22, 30,...

+8 +8 +8

$n = 5$

$6 + 8(n-1)$

$6 + 8(5-1)$

$6 + 8(4) = 6 + 32 = 38$

b) 12, 5, -2, -9,...

$n = 16$

$6 + 8(16-1)$

$6 + 8(9) = 6 + 72 = 78$

c) -18, -23, -28, -33

$n = 100$

$6 + 8(100-1)$

$6 + 8(99) = 6 + 792$

798