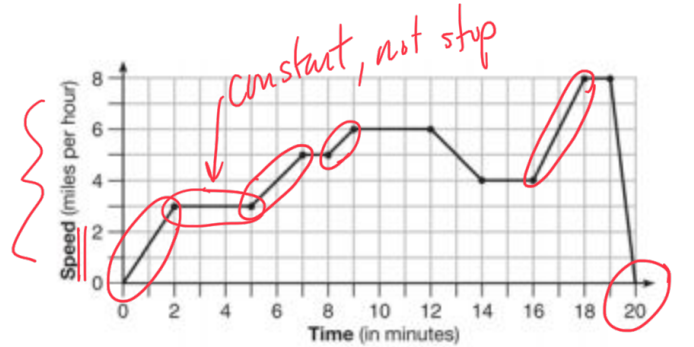


Algebra 1 Chapter 5 Pre-Test

- 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?

$0 \rightarrow 2, 5 \rightarrow 7, 8 \rightarrow 9, 16-18$

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

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

$2 \rightarrow 5$

- d) What time(s) did Arlene stop?

20 min

- 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 values

$\{-2, -1, 0, 3\}$

Range: y values

$\{7, 4, 9, 2\}$

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

Each input has one and only one output!

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

a) $y = 3x - 5$

slope

rise
run
up 3
over 1
right 1

x	$y = 3x - 5$	y
-2	$3(-2) - 5 = -6 - 5$	-11
-1	$3(-1) - 5 = -3 - 5$	-8
0	$3(0) - 5 = 0 - 5$	-5
1	$3(1) - 5 = 3 - 5$	-2
2	$3(2) - 5 = 6 - 5$	1

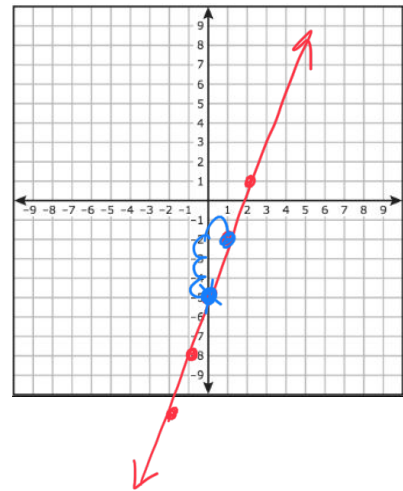
$(-2, -11)$

$(-1, -8)$

$(0, -5)$

$(1, -2)$

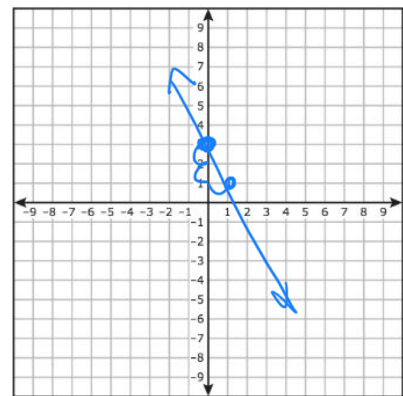
$(2, 1)$



b) $y = -2x + 3$

down 2
right 1

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

$$x + 3 = y$$

$$x + 3 = f(x)$$

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

$$\frac{y}{x}$$

$$y = kx$$

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

$$\frac{7}{2}$$

$$\frac{14}{4} = \frac{7}{2}$$

$$\frac{35}{10} = \frac{7}{2}$$

$$y = \frac{7}{2}x$$

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

y/x	k
$9/-3$	-3
$14/2$	7

$$y = kx$$

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

not direct variation

could be direct variation

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

y/x	k
$4/-2$	-2
$-6/3$	-2
$-8/4$	-2

$$y = kx$$

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

$$y = -2x$$

yes, direct variation

$(0,0)$ *

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) $-3x + 4y = 0$

$-3x$ $+3x$

$$y = kx$$

b) $y + 5 = 2x$

-5 -5

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

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

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

yes, direct variation

$$y = 2x - 5$$

not direct variation

not $(0,0)$

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

$y = kx$

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

$k = \frac{y}{x} \quad \frac{3}{8} \left(\frac{20}{1} \right) = \left(\frac{8}{3} x \right) \frac{3}{8}$

$y = \frac{8}{3} x$

$20 = \frac{8}{3} x$

$\frac{20}{\frac{8}{3}} = \frac{8}{3} x$

$x = 20 \div \frac{8}{3}$

$\frac{20}{1} * \frac{3}{8} = \frac{60}{8} = \frac{60 \div 4}{8 \div 4} = \frac{15}{2}$

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

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

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

$y = kx$

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

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

$-\frac{12}{4} = -3$

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

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

$d = 8$

$a_0 = 6$

$a_n = a_0 + d(n-1)$

$a_5 = 6 + 8(5-1)$

$6 + 8(4)$

$6 + 32 = 38$

5th term $n = 5$

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

$a_{10} = 6 + 8(10-1)$

$6 + 8(9)$

$6 + 72 = 78$

10th term $n = 10$

78

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

$a_{100} = 6 + 8(100-1)$

$6 + 8(99)$

$6 + 792 = 798$

100th term $n = 100$

798

HW
 Ch 5 Pre-Test
 Optimal HW 29
 Ch 5 Review
 Ch 5 Test due May 11th
 *HW @ 27 April 30th
 HW @ 28 May 7