Key

Name: _____ Period: _____

QCA#3 Review Day 2

Domain and Range:

1. What is the range of the function f(x) = -2x +10 when the domain is {-4, -1, 0, 2}?

$\{6, 10, 12, 18\}$

2. What is the domain of the function f(x) = 2.5x - 1 when the range is {-18.5,-6,-1, 11.5}?

$\{-7, -2, 0, 5\}$

3. What is the range of the function g(x) = 5x – 8, when the domain is {-5, -1, 1, 4 }

$\{-34, -14, -4, 11\}$

4. What is the domain of the function h(x) = -3x + 12, when the range is {-3, 0, 12, 18 }

$\{-2, 0, 4, 5\}$

5. What is the range of the function f(x) = 2x + 2 when the domain is $-1 \le x \le 5$?

$0 \le y \le 12$

6. What is the domain of the function f(x) = 3x – 1 when the range is $-10 \le y \le 5$?

$-3 \le x \le 2$

7. What is the range of the function $y = x^2 + 2$, when domain is $-3 \le x \le 2$?

$6 \le y \le 11$

Linear Relationships and equations: $m = \frac{\text{rise}}{\text{run}} = \frac{\Delta y}{\Delta x} =$

8. Which equation best describes the functional relationship in the data set?
{(–3, –7), (0, –1), (2, 3)}

a. $y = -4x - 5$
b. $y = -2x + 1$
c. $y = 2x - 1$
d. $y = 3x + 2$

x	y	Slope
-3	-7	$3 < 6 < 2$
6	-1	$-7 > 4$
2	3	$-1 > 4$

$\frac{\Delta y}{\Delta x}$ $\frac{6}{3} = 2$ $\frac{4}{2} = 2$

9. Write the function that fits the data set. {(–3, –11), (1, –3), (5, 5)}

x	y	Slope
-3	-11	$4 < -3 > 8$
1	-3	$4 < 1 > 8$
5	5	

$\frac{\Delta y}{\Delta x} = \frac{8}{4} = 2$

stat edit
stat calc
b = -5

$f(x) = 2x - 5$

L1 x-values
STAT EDIT L2 y-values STAT CALC

10. Write the equation of the line that passes through the points of (3, 3) and (–2, 6)?

Slope $\frac{y_2-y_1}{x_2-x_1}$ $\frac{6-3}{-2-3}=\frac{3}{-5}$ a = -0.6 b = 4.8 $y=-0.6x+4.8$

11. Evaluate the function $f(x) = 3x^2 + 4x - 5$ at $f(-2)$

$f(x)=3x^2+4x-5$
$f(-2)=3(-2)^2+4(-2)-5$
$f(-2)=12-8-5$
$f(-2)=-1$ OR Look at table

12. Give 5 possible points that would be on the equation: y = -4x +2

1) y =
2) Look in Table (-3, 14) (-2, 10) (-1, 6) (0, 2) (1, -2)

Solutions of Inequalities f g Plug In! & check to see if it makes a true statement

13. Circle which of the following point(s) is a possible solution to $4x - 2y \geq 18$?

X
(0, 9) $-18 \geq 18$ | (-2, -13) $18 \geq 18$ | (0, -20) $40 \geq 18$ | (5, 1) $18 \geq 18$ | (4, -4) $24 \geq 18$ | (8, 0) $32 \geq 18$ | $(\frac{1}{2}, -10)$ $22 \geq 18$

14. Cindy is making bracelets to earn summer money. She uses the linear expression $3x+8$ to calculate her hourly earnings, in dollars, based on the number of bracelets x, that she makes. What is the fewest number of bracelets she must make per hour in order to earn more than $26 per hour?

$3x+8>26$

a. 3: $3(3)+8>26$, $17>26$, X
b. 5: $3(5)+8>26$, $23>26$, X
c. 6: $3(6)+8>26$, $26>26$, X
d. 7: $3(7)+8>26$, $29>26$, yes

15. Jessie bought items for his pool party. He purchased x bags of chips at $3.50 each and y liters of soda at $2 each. He had less than $30 to spend. What is a reasonable number of bags of chips and liters of soda that Jessie purchased?

$3.50x+2y<30$

a. (6,6): $33<30$, X
b. (5,5): $27.50<30$, yes
c. (7,5): $34.50<30$, X
d. (4, 8): $30<30$, X

16. *Tickets for the homecoming football game are being sold for $12 for alumni and $7 for students. The stadium holds a maximum of 5000 people.* $12a+7s$ $a+s\leq 5000$

How many alumni would need to buy tickets if 2000 students bought tickets and the school wanted to make at least $38,000?

a. 24,000 b. 2000 c. 14,000 d. 3000

$12a+7(2000)\geq 38000$
$12a+14000\geq 38000$
$-14000 \quad -14000$
$\frac{12a}{12}\geq\frac{24000}{12}$
$a\geq 2000$