Objective: SWBAT review for the quiz!! :)

Kickoff

Complete your participation rubric for the first half of the third quarter (yes we are already half way done!)

Then pick up your review packet and try the kickoff!

Lesson 8.7- SWBAT review for their quiz!

Kick off- For each of the following, solve for the roots by completing the square.

1) $x^2 - 4x - 12 = 0$ 2) $x^2 + 8x - 15 = 0$ 3) $x^2 - 10x + 21 = 0$

$\frac{1}{2}(-4)$
$+12 \quad +12$ $\cdot -2$
$x^2 - 4x = 12$
$(x-2)^2 = 12 + 4$
$\sqrt{(x-2)^2} = \sqrt{16}$
$x - 2 = \pm 4$
$x - 2 = 4 \qquad x - 2 = -4$
$+2 \quad +2 \qquad +2 \quad +2$
$x = 6 \qquad x = -2$

Topics on the Quiz:
1) Completing the Square
2) Domain and Range (for points and graphs)
3) Determining Functions (for points and graphs)
4) Graphing Linear Functions
5) Graphing Quadratic Functions
6) Finding the roots, minimum, and maximum for Quadratic Functions.
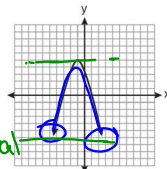

Domain, Range and Functions

1) Using the relation: $\{(1,3), (2,5), (3,10), (0,0)\}$ Determine
   a. Domain-

   b. Range-

   c. Is the relation a function? Why or why not.

2) Using the relation: $\{(-2,3), (5,3), (1,6), (5,2)\}$ Determine
   a. Domain-

   b. Range-

   c. Is the relation a function? Why or why not.

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3) Determine for the graph:
   a. Domain- $(-\infty, \infty)$

   b. Range- $(-\infty, 5]$

   c. Is the relation a function? Why or why not.

   Yes because the vertical line test works!
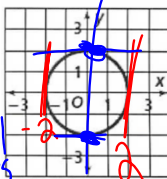
4) Determine for the graph:
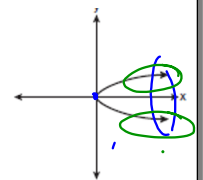   a. Domain- $[-2, 2]$

   b. Range- $[-2, 2]$

   c. Is the relation a function? Why or why not.
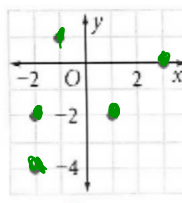
   No because the vertical line test does not work.

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5) Determine for the graph:
   a. Domain- $[0, \infty)$

   b. Range- $(-\infty, \infty)$

   c. Is the relation a function? Why or why not.

6) Write the relation as points, then state if the relation is a function and the domain and range.

   ✳ the points
   $(-2, -4) \quad (-2, -2) \quad (-1, 1) \quad (1, 2) \quad (3, 0)$

   Relation:

   Function? Why or why not?

   Domain:

   Range:

Straight Line!

Linear Functions

Graph each of the following using slope-intercept form.

7) $y - 2x - 1 = 0$

$+2x+1 \quad +2x+1$

$y = 2x + 1$

$m = \frac{2}{1}$

$b = 1$

$y = 2x + 1$

8) $9x + 3y = 9$

Graph each of the following using a table.

9) $y = 2x$

X	2x	y
-2	2(-2)	-4
0	2(0)	0
2	2(2)	4

$y = 2x$

10) $x + y = 1$

$X = \frac{-b}{2a}$ Parabola ∪ ∩

Quadratic Functions

Directions: Graph each quadratic function, label the vertex, roots and state the minimum or maximum.

11) $y = 3x^2 - 6x + 5$

$a = 3$

$b = 6$

$c = 5$

$X = \frac{-b}{2a}$

$X = \frac{-(-6)}{2(3)} = \frac{6}{6} = 1$

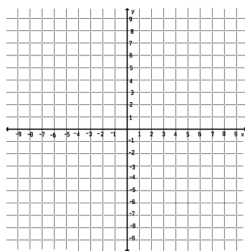| X	$3x^2-6x+5$	y
-1		14
0		5
1		2
2		5
3		14

$y = 3x^2-6x+5$

Vertex (1,2)   Minimum   NO ROOTS!!

$X = 1$
axis of Symmetry

12) $y = -x^2 - 4x + 5$

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13) $y = -x^2 + 4x - 3$

14) $y = -x^2 - 2x + 3$

15) $y = x^2 + 4x + 3$

16) $y = x^2 + 4x + 7$