Alg 2 Bellwork Friday, October 24, 2014

1. Find the y-intercept for each quadratic.

a. $y = 4x^2 - 9x + 17$ b. $y = -2(x + 3)^2 - 10$

2. Find the coordinates of the vertex and equation for the Line of Symmetry.

$y = 3(x - 7)^2 + 5$

3. Tell if the vertex of each quadratic is a maximum or a minimum.

a. $y = -3.2x^2 + 18x - 9$ b. $y = 2(x - 7)^2 - 25$

4. A quadratic with the equation $y = ax^2 + c$ contains the given points. Find the values of a and c.

(-6, 5) and (12,41)

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ANSWERS

1. Find the y-intercept for each quadratic.

a. $y = 4x^2 - 9x + 17$

$4(0)^2 - 9(0) + 17$

y-INT = 17 or (0,17)

b. $y = -2(x + 3)^2 - 10$

$-2(0+3)^2 - 10$

$-2(9) - 10$

$-18 - 10$

$= -28$

y-INT = -28 or (0,-28)

2. Find the coordinates of the vertex and equation for the Line of Symmetry.

$y = 3(x - 7)^2 + 5$

7 RIGHT 5up

Vertex (7,5)

LOS $x = 7$

3. Tell if the vertex of each quadratic is a maximum or a minimum.

a. $y = -3.2x^2 + 18x - 9$

$a < 0$ → opens down

MAX

b. $y = 2(x - 7)^2 - 25$

$a > 0$ → opens up

MIN

4. A quadratic with the equation $y = ax^2 + c$ contains the given points. Find the values of a and c.

(-6, 5) and (12,41)

x y x y

$5 = a(-6)^2 + c \rightarrow 5 = 36a + c$

$41 = a(12)^2 + c \rightarrow -41 = 144a + c$

$-36 = -108a$

$\frac{1}{3} = a$

$5 = 36(\frac{1}{3}) + c$

$a = \frac{1}{3}$

$c = -7$