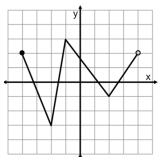
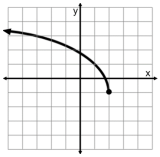


Bellwork 9-30-15

Find the domain and range for the given graphs.

1. 

D:
R:

2. 

D:
R:

Sep 28-4:42 PM

$y = a(x-b)^2 + c$

vertex (b, c)
OPP

$y = 2(x+5)^2 + 2$
(-5, 2)

$y = \frac{2}{5}(x-4)^2 + 3$
(4, 3)

$y = -3(x-3)^2 - 7$
(3, -7)

$y = (x+2)^2$
(-2, 0)

Sep 30-9:37 AM

9-30-15

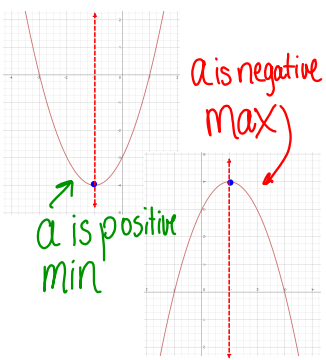
5.2a Properties of Quadratics in Vertex Form

Sep 28-1:58 PM

Vocabulary

Vertex: min/max point

Axis of Symmetry: vertical line through the vertex that cuts the parabola in half



Sep 28-2:02 PM

How to Find Vertex (Min/Max) on Calculator:

1. Press 2nd
2. Press TRACE
3. Select #3 for a min OR #4 for a max
4. You should see "Left Bound?"
Type in an x-value to the left of vertex OR
Move cursor to the left of vertex and press enter.
5. You should see "Right Bound?"
Type in an x-value to the right of vertex OR
Move cursor to the right of vertex and press ENTER
6. You should see "Guess?"
Type in the x-value for the vertex OR
Move cursor to the vertex and press ENTER

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Example 1:

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

- a. Direction of opening? *up*
- b. Is the vertex a *min* or max?
- c. Vertex? *(-2, -3)*
- d. Axis of symmetry?

$$x = -2$$

Sep 28-3:21 PM

Example 2:

$$y = -(x-4)^2 + 1$$

- a. Direction of opening? *Down*
- b. Is the vertex a min or *max*?
- c. Vertex? *(4, 1)*
- d. Axis of symmetry?

$$x = 4$$

Sep 28-3:21 PM

Example 3:

$$y = -(x-5)^2$$

- a. Direction of opening? *Down*
- b. Is the vertex a min or *max*?
- c. Vertex? *(5, 0)*
- d. Axis of symmetry?

$$x = 5$$

Sep 28-3:21 PM

Example 4:

$$y = x^2 + 6$$

- Direction of opening? *up*
- Is the vertex a *min* or max?
- Vertex? *(0, 6)*
- Axis of symmetry?

$$x = 0$$

Sep 28-3:21 PM

Conclusion

- What is the vertex? *$(-b, c)$*
- If the parabola opens up, is the vertex a *min* or a max?
- How do you write the equation for the axis of symmetry? *$x =$*
- Do you use the *x-value* or the y-value of the vertex for the axis of symmetry?
- Questions???

Sep 28-3:34 PM

Assignment:

5.2a Properties of Quadratics in Vertex Form Wkst

Sep 29-12:45 PM