

Quadratic Graphing Practice

Thursday, January 9, 2020 8:40 AM



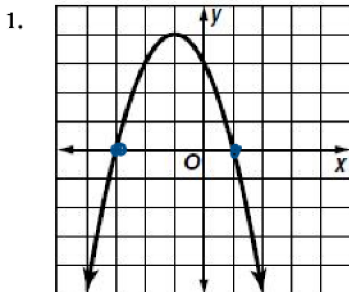
2a- Practice Graphing...

10.1-10.2 Practice Worksheet

Benchmarks: B.8- Solve quadratic functions by graphing.
B.9 Analyze quadratic functions using graphs, tables, & equations.

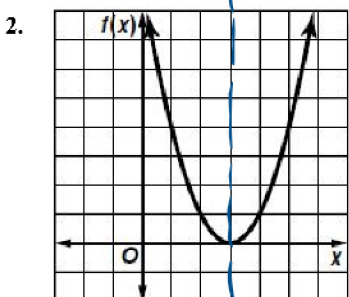
Name _____ Date _____ Blk _____

Directions: Answer the following questions.



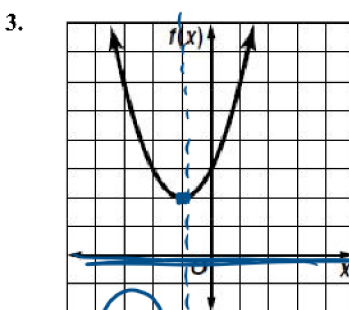
Vertex: $(-1, 4)$
 Min or Max: max.
 Axis of Symmetry: $x = -1$
 Solution(s): $2 \rightarrow -3, 1$

* discriminant $\rightarrow b^2 - 4ac > 0$
 $y = ax^2 + bx + c$ 2 roots/intercepts



Vertex: $(3, 0)$
 Min or Max: min
 Axis of Symmetry: $x = 3$
 Solution(s): 1 solution $\rightarrow 3$

$b^2 - 4ac = 0$



Vertex: $(-1, 2)$
 Min or Max: min
 Axis of Symmetry: $x = -1$
 Solution(s): no solutions

$b^2 - 4ac < 0$

Using the discriminant to determine number of solutions,

4. Order the following graphs from widest to narrowest.

$y = -5x^2$, $y = \frac{1}{2}x^2$, $y = \frac{-2}{3}x^2$

5. Order the following graphs from widest to narrowest.

$y = -\frac{1}{6}x^2$, $y = \frac{1}{2}x^2$, $y = \frac{2}{5}x^2$

Quiz \rightarrow Tuesday

Quiz → Tuesday

* without a calculator +

10.1-10.2 Practice Worksheet
can use axis of symmetry as a start point
Solve the quadratic by graphing. ↓ find the vertex!

Benchmarks: B.8- Solve quadratic functions by graphing.
B.9 - Analyze quadratic functions using graphs, tables, & equations.

recall $x = \frac{-b}{2a}$ ($y = ax^2 + bx + c$)

6. $x^2 + 6x + 9 = 0$

$y = x^2 + 6x + 9$

axis of symm. $x = \frac{-b}{2a} = \frac{-6}{2(1)} = -3$

vertex $(-3, 0)$

Now plug in -3
solve for y

$y = (-3)^2 + 6(-3) + 9 = 0$

x	y
-5	
-4	
-3	0
-2	
-1	
0	

Solution(s): _____
(what are they?)

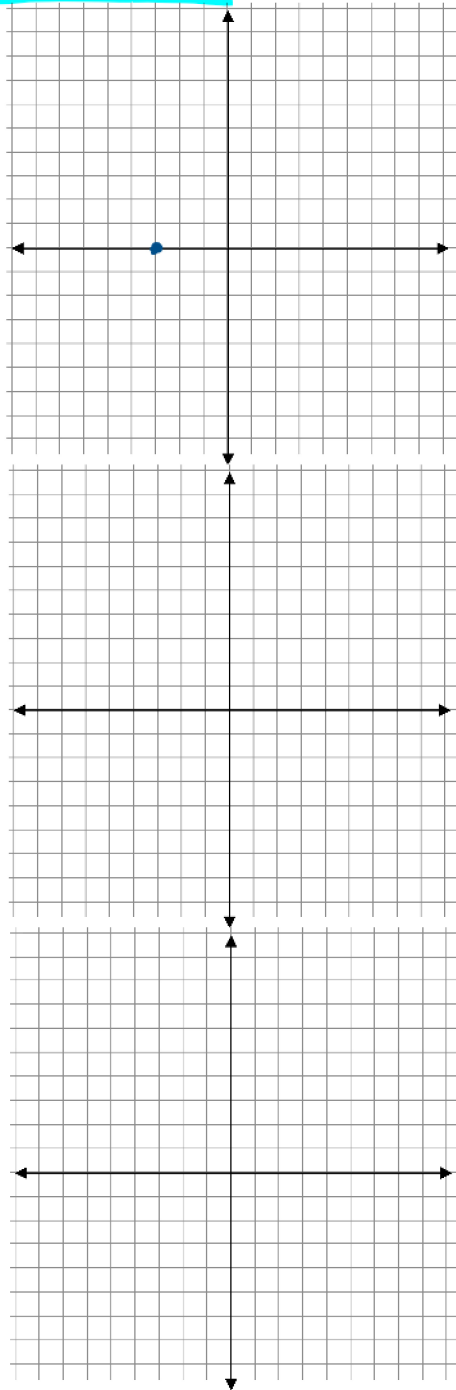
7. $2x^2 + 4x - 6 = 0$

Solution(s): _____

8. $\frac{1}{2}x^2 - x - 4 = 0$

Solution(s): _____

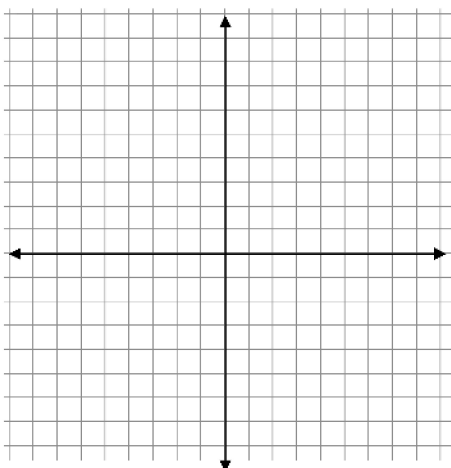
use to find axis of symmetry



Today Practice!
→ Graphing practice
→ playing with $y = x^2$ package.

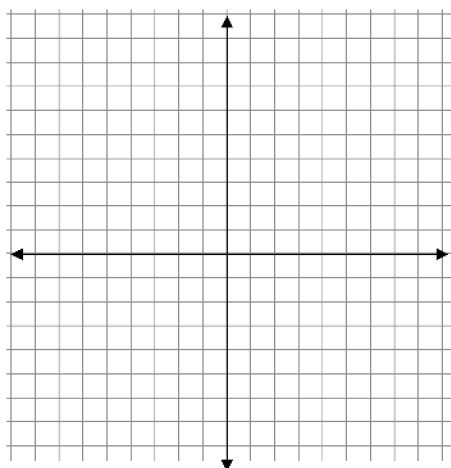
Solve the quadratic by graphing. (Make sure you set the equation = 0)

9. $x^2 - 6x = -5$



Solution(s): _____

10. $x^2 - 3 = 2x$



Solution(s): _____

Quiz Tuesday. → - Graphing
 - finding vertex, intercepts, axis of symmetry
 - domain & Range

- domain & range

→ playing with $y = x^2$

→ graph something like

$$y = x^2 + 2$$

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

$$y = -3x^2 \quad \text{or} \quad -\frac{1}{3}x^2$$

→ If you had a graph of these could you write the equation?

→ finding x, y intercepts
WITHOUT graphing

→ why is the discriminant important? $b^2 - 4ac$