

# HOW Reminders

## • Preparedness:

- Be in the classroom when the bell rings
- Have something to write with, a calculator, and your notebook

## Engagement:

- Have your phone and computer put away

# Warm-Up

$$1) -6 + 3x + 8 = -3 + 4x$$

$$x = 5$$

$$2) 35 + 3x = -(5 + 3x) + x$$

$$x = -8$$



# Think about the last lesson...

Pick one of the vertex forms below and write it down:

$$y = 4(x + 3)^2 - 5$$

$$y = -8(x + 4)^2 - 3$$

$$y = \frac{1}{3}(x - 9)^2 + 2$$

$$y = -\frac{2}{5}(x - 7)^2 + 9$$



Write down:

- 1) Whether it opens up or down
- 2) The coordinate of its vertex
- 3) The equation for its axis of symmetry
- 4) How it translated/reflected from the parent function



## Now work with a NEW partner

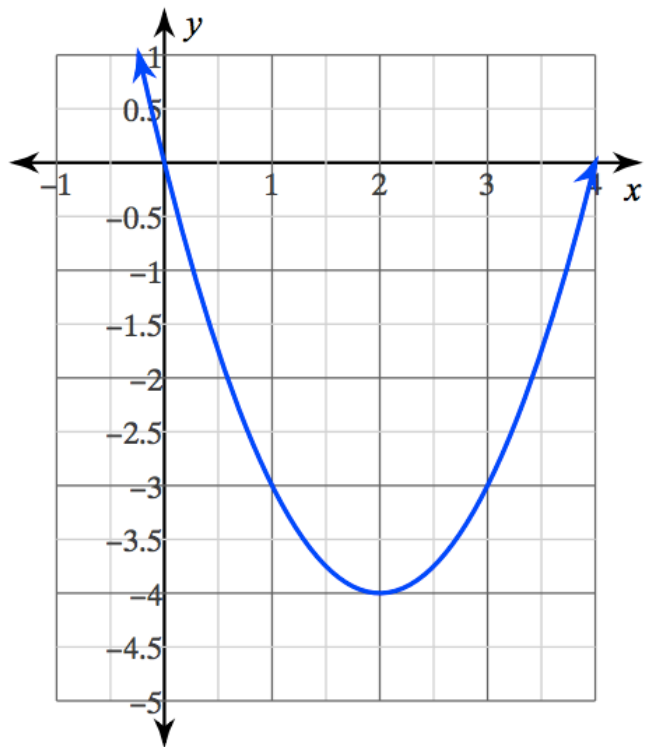
From each graph, work together to find:

- the vertex
- the opening direction
- the equation of the quadratic function



# Writing Equations in Vertex Form

1)



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

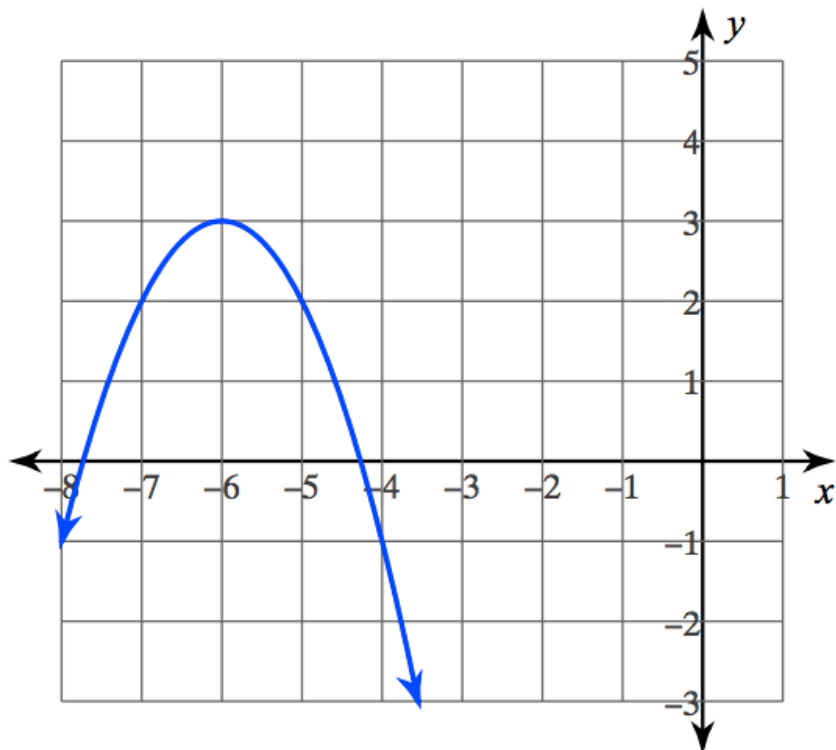
Vertex: (2, -4)

Opening Direction: opens up

Equation:  $y = (x - 2)^2 - 4$

## Writing Equations in Vertex Form

2)



$$y = -(x + 6)^2 + 3$$

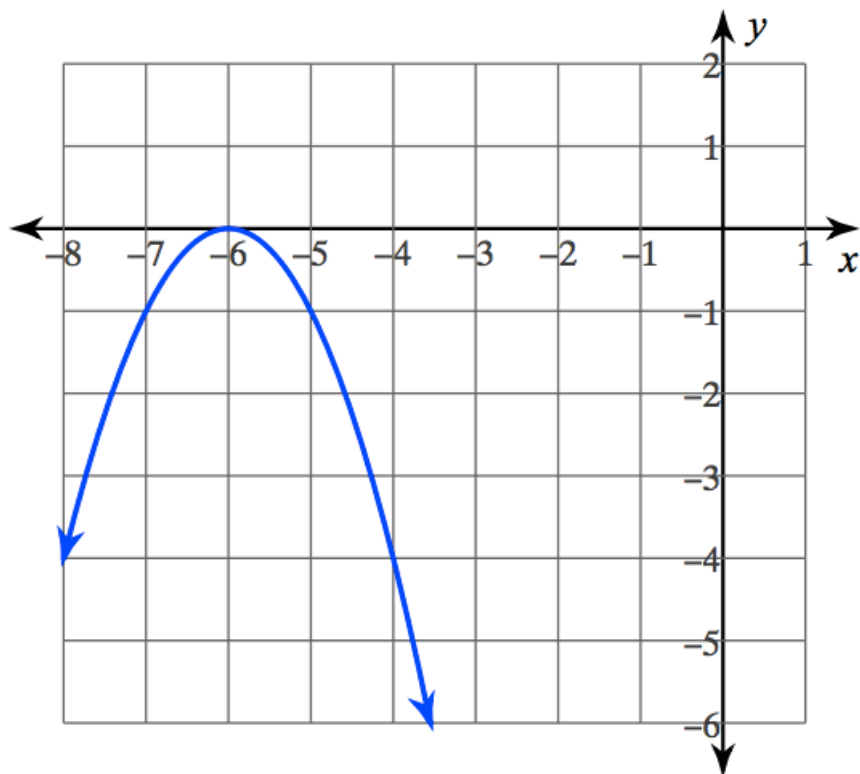
Vertex:  $(-6, 3)$

Opening Direction: opens down

Equation:  $y = -(x + 6)^2 + 3$

## Writing Equations in Vertex Form

3)



$$y = -(x + 6)^2$$

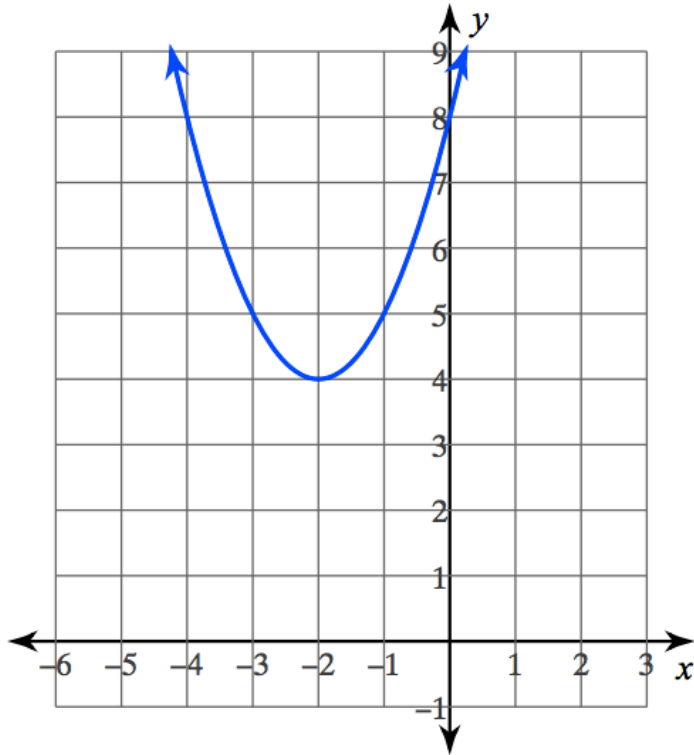
Vertex:  $(-6, 0)$

Opening Direction: opens down

Equation:  $y = (x + 6)^2$

# Writing Equations in Vertex Form

4)



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

Vertex: (-2, 4)

Opening Direction: opens up

Equation:  $y = (x + 2)^2 + 4$

# Padlet Questions

## Quiz next class!

- Matching parent functions
- Given an equation of a parabola in vertex form, write:
  - the vertex,
  - the axis of symmetry, and
  - whether it opens up or down.

