

4.7 Transformations with Quadratic Equations
Honors Algebra 2

The **Vertex Form** of a quadratic function is _____
where **(h, k)** is the _____ of the parabola.
Completing the Square can be used to write a quadratic function in vertex form.

Write each of the following quadratics in Vertex Form.

Find the vertex, x-intercepts and y-intercept of the graph of each parabola:

1. $y = x^2 - 4x - 21$

2. $y = \frac{1}{3}x^2 + 6x + 20$

Vertex: _____ y-int: _____

X-int: _____ x-int: _____

Vertex: _____ y-int: _____

X-int: _____ x-int: _____

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3. $y = -\frac{1}{2}x^2 - 8x + 14$

4. $y = -x^2 + 7x + \frac{11}{4}$

Vertex: _____ y-int: _____

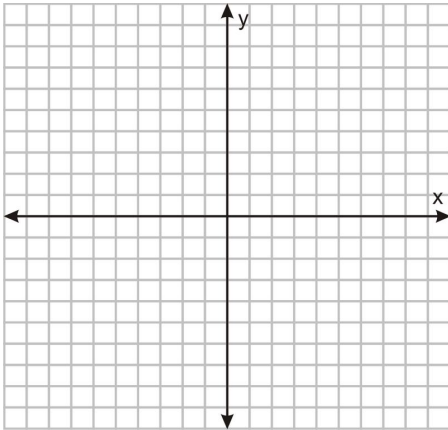
Vertex: _____ y-int: _____

X-int: _____ x-int: _____

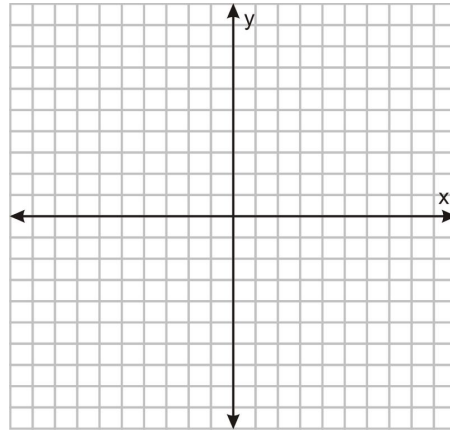
X-int: _____ x-int: _____

5. Graph the following functions:

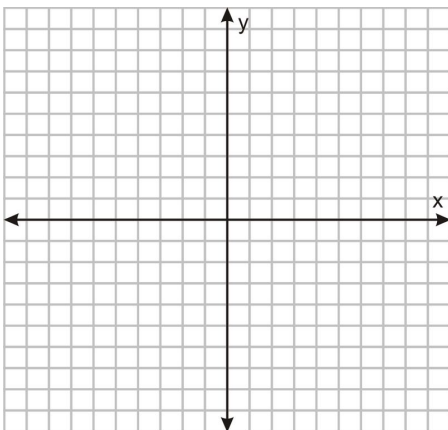
a. $y = 4x^2 - 16x - 40$



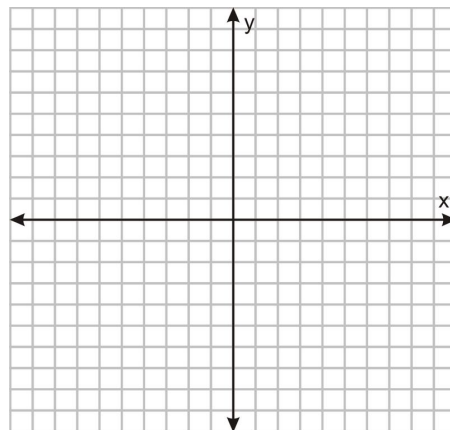
b. $y = (x - 3)^2 - 2$



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

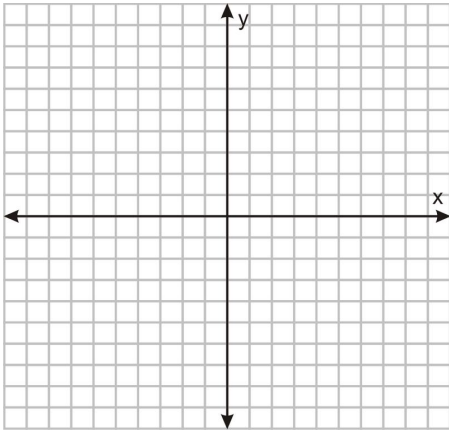


d. $y = x^2 + 6x + 2$

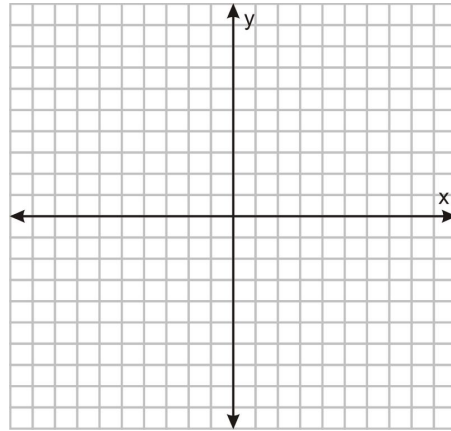


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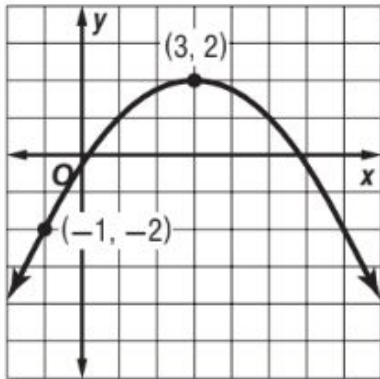
e. $y = -2x^2 + 8x - 5$



f. $y = -3(x - 5)^2 - 2$



6. What is the equation of the graph shown:



7. What is the equation of the graph shown:

