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.

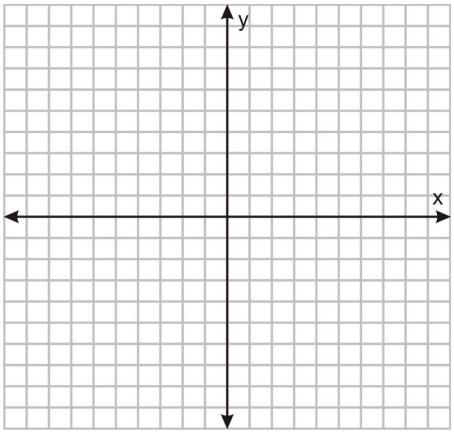
Write each of the following quadratics in Vertex Form.
Find the vertex, x-intercepts and y-intercept of the graph of each parabola:

1. $y = x^2 - 4x - 21$ Vertex: _____ y-int: _____ X-int: _____ x-int: _____	2. $y = \frac{1}{3}x^2 + 6x + 20$ Vertex: _____ y-int: _____ X-int: _____ x-int: _____

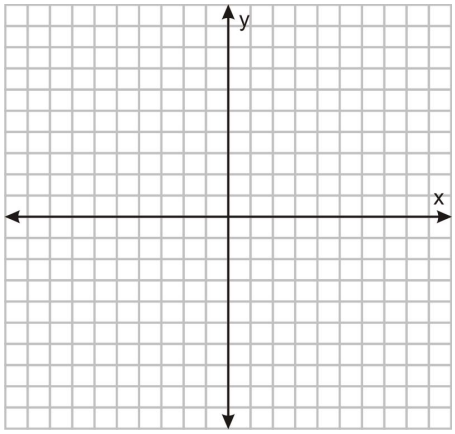
3. $y = -\frac{1}{2}x^2 - 8x + 14$ Vertex: _____ y-int: _____ X-int: _____ x-int: _____	4. $y = -x^2 + 7x + \frac{11}{4}$ Vertex: _____ y-int: _____ X-int: _____ x-int: _____

5. Graph the following functions:

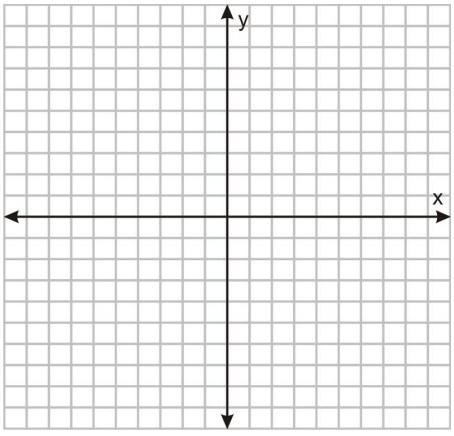
a. $y = 4x^2 - 16x - 40$



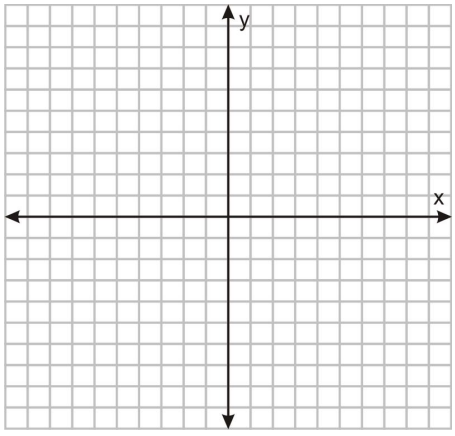
b. $y = (x-3)^2 - 2$



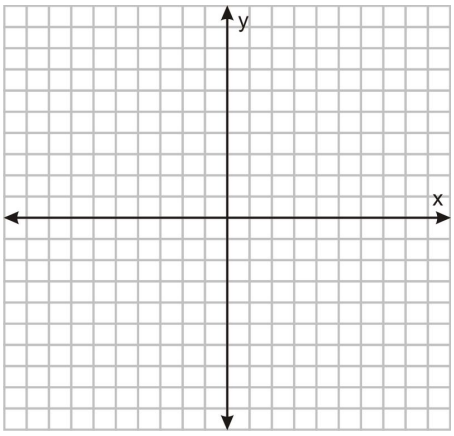
c. $y = (x-5)^2 + 3$



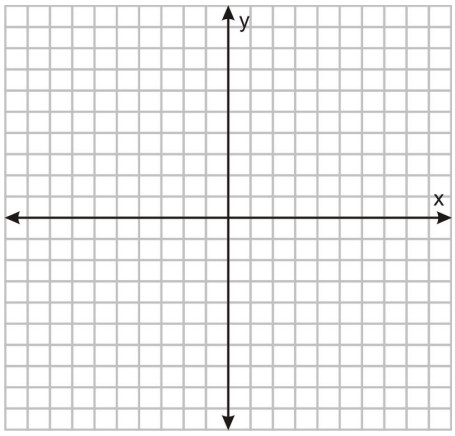
d. $y = x^2 + 6x + 2$



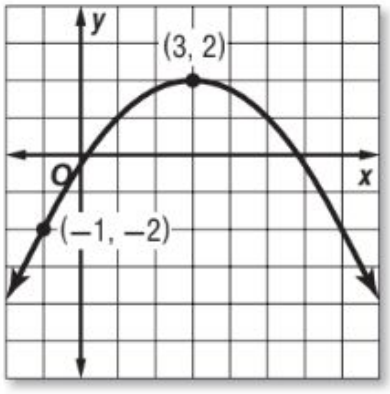
e. $y = -2x^2 + 8x - 5$



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: