Name: _____

Chapter 3 – Section 3.2 The Vertex of a Parabola

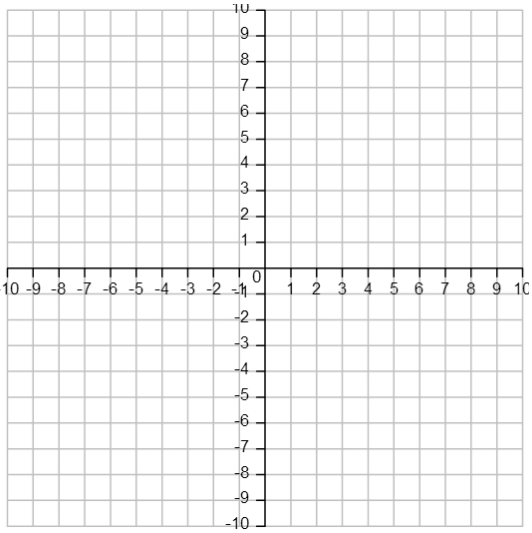
TICKET-IN-THE-DOOR

In order to be prepared for class you must watch the module and complete the following activity. This is due first thing when you get to class. Check your understanding:

1. Convert the function $f(x) = x^2 + 2x + 10$ into the **vertex form** $f(x) = a(x-h)^2 + k$ by completing the square.

2. Convert the function $f(x) = -4x^2 - 12x - 8$ into the **vertex form** $f(x) = a(x-h)^2 + k$ by completing the square.

3. For the quadratic function $y = -2x^2 + 4x + 6$ determine:
   a. whether the parabola is concave up or down
   b. vertical intercept (y-intercept)
   c. coordinates of its vertex
   d. the equation of the axis of symmetry
   e. Graph (You must have at least 5 points)



4. For the quadratic function $y = x^2 + 14x + 9$determine:
   a. whether the parabola is concave up or down
   b. vertical intercept (y-intercept)
   c. coordinates of its vertex
   d. the equation of the axis of symmetry
   e. Graph (You must have at least 5 points)