**Math 20-2**

Objectives:

- **Given and equation in vertex format find the properties of the function.**
- **Write the equation of a quadratic function in vertex format.**

Skill Review – graph given $y = ax^2 + bx + c$ and graph given $y = x(x - r)(x - s)$.

1. Given standard format: $y = x^2 + 2x - 8$.

    a) Find at least 5 points to plot.

    b) Graph.

    c) Find properties: coordinates of the vertex, equation for axis of symmetry, intercepts (both x and y) and the domain & range.

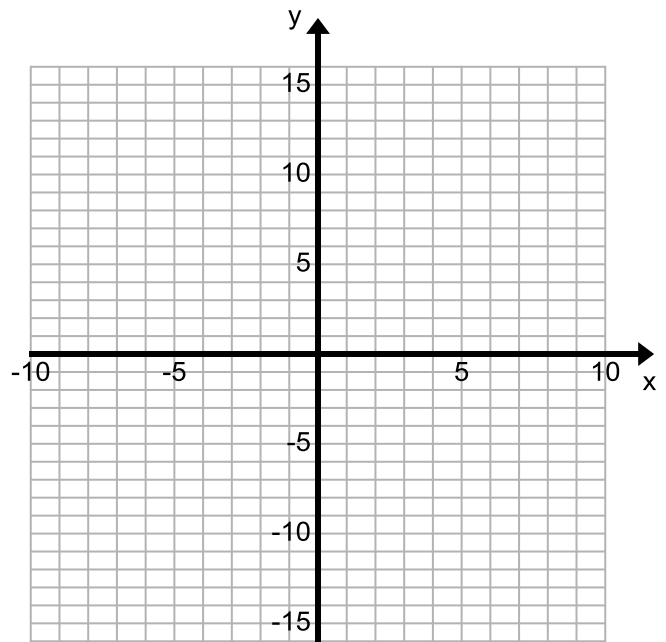| X	Y
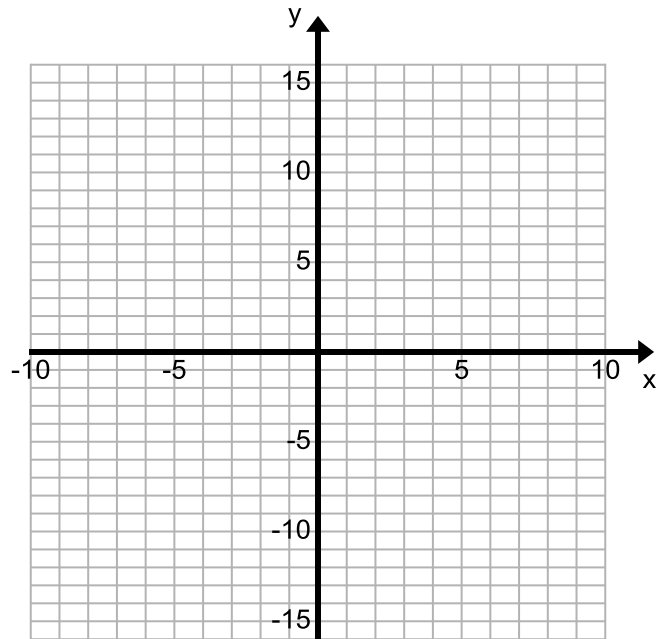
2. Given factored format: $y = (x + 4)(x - 2)$.

   a) Find at least 5 points to plot.

   b) Graph.

   c) Find properties: coordinates of the vertex, equation for axis of symmetry, intercepts (both x and y) and the domain & range.

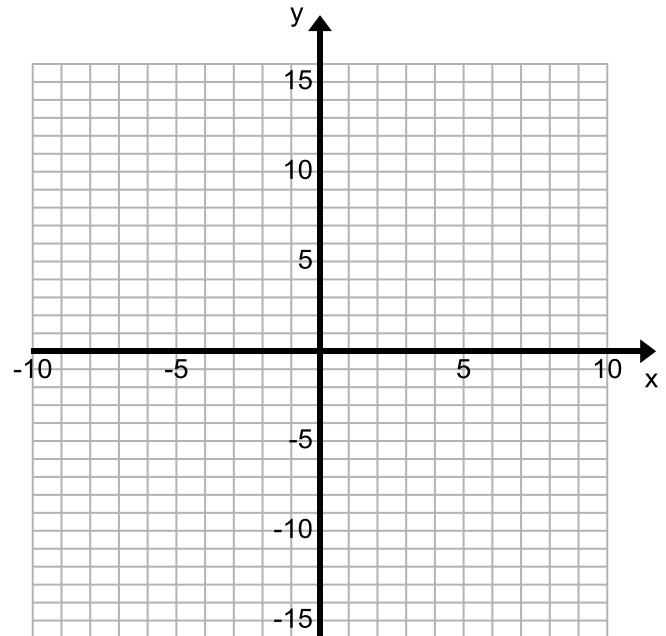| **X**	**Y**

3. Given vertex format: $y = (x + 1)^2 - 9$.

   a) Find at least 5 points to plot.

   b) Graph.

   c) Find properties: coordinates of the vertex, equation for axis of symmetry, intercepts (both x and y) and the domain & range.
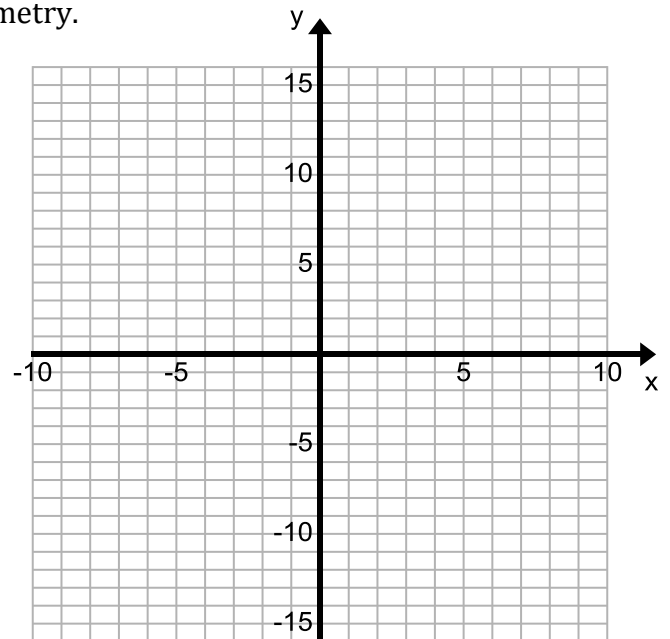
X	Y

4. Given the following quadratic functions

- Identify the vertex, write the coordinates for the point.
- Plot the vertex, draw in the line of symmetry.
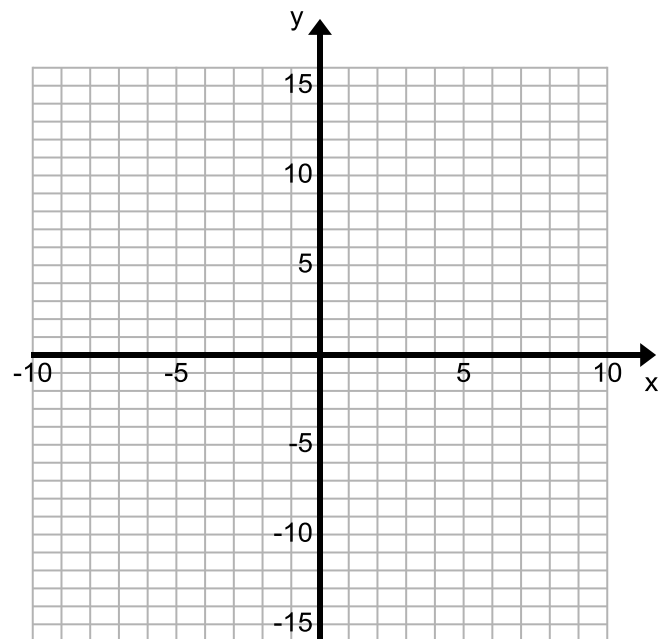- Find and plot the intercepts.
- Sketch the function.

a) $y = (x - 3)^2 - 1$

X	Y

b) $y = (x + 6)^2 - 4$

X	Y

5. Identify the coordinates of the vertex for each function:

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

b) $y = (x + 3)^2 - 9$