AGS2 Name: _____
Module 2 Review Period: _____ Date: _____

Learning Targets:
Communicates clearly and explains reasoning. _____
Understands and applies the characteristics of a function. _____

For problems 1-2, complete the square to write the equation in vertex form. Show your work!

{1} $f(x) = x^2 - 8x + 12$

{2} $f(x) = 4x^2 + 16x + 8$

For problems 3-7, change the expression into factored form. Factor out any common factors.

{3} $x^2 + 9x + 20$

{4} $x^2 - 8x + 7$

{5} $3x^2 + 6x + 3$

{6} $3x^2 - 4x - 4$

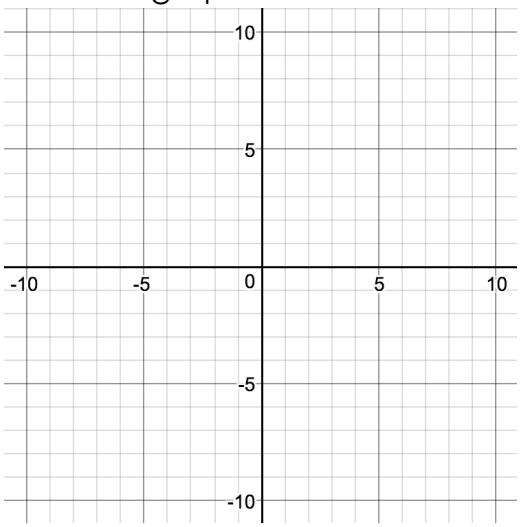
{7} $6x^2 - 21x - 45$

{8} From this equation in standard form, $f(x) = x^2 + 6x + 5$, find the indicated information:

y-intercept:

Vertex Form:

Draw the graph:



Axis of Symmetry:

Make a table of 5 points:

Vertex:

Factored Form:

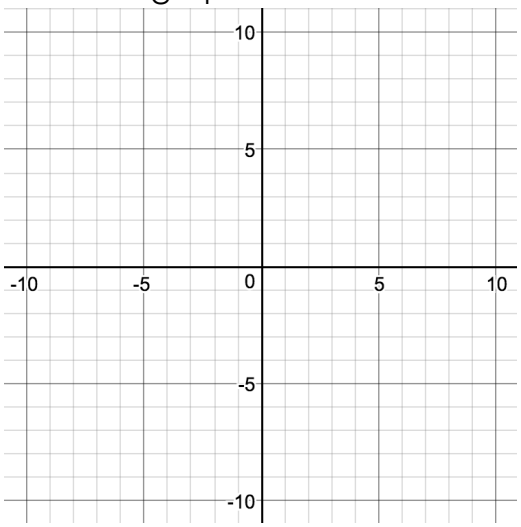
x-intercept(s):

{9} From this equation in factored form, f(x) = (x – 6)(x + 4), find the indicated information:

x-intercept(s):

Vertex Form:

Draw the graph:



Axis of Symmetry:

Make a table of 5 points:

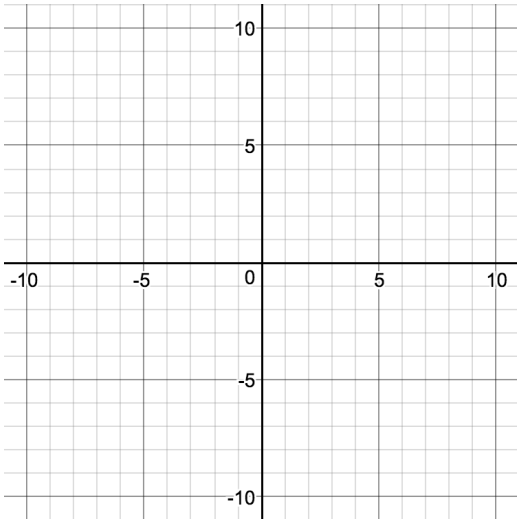
Vertex:

Standard Form:

y-intercept:

For problems 10-11, graph the equation using at least two points on either side of the vertex, list the vertex and axis of symmetry, list how many x-intercepts the graph has, and describe the transformation(s) using complete sentences.

{10} $f(x) = (x - 5)^2 + 3$



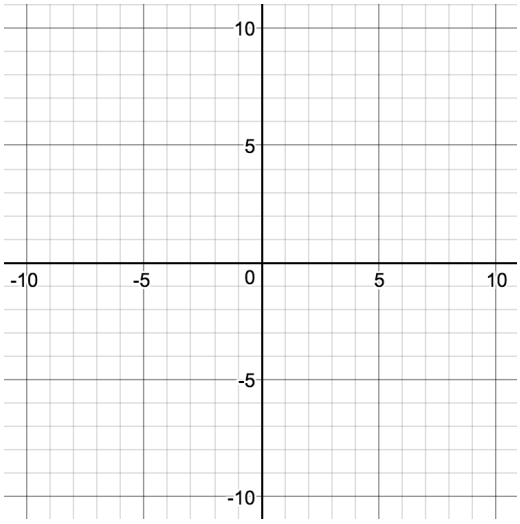
Vertex:

Axis of Symmetry:

# of x-intercepts:

Transformations:

{11} $f(x) = 2(x + 1)^2 - 5$



Vertex:

Axis of Symmetry:

# of x-intercepts:

Transformations:

For problem 12, identify the vertex and write the vertex-form equation of the parabola graphed.

{12} f(x) =

Vertex: