

\_\_\_\_ F.IF.7a Graph quadratic functions expressed symbolically[1]

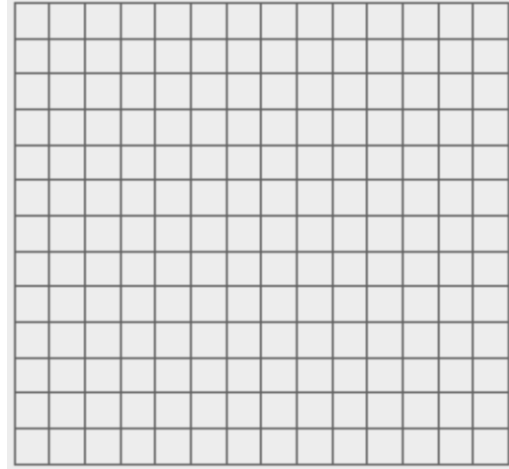
\_\_\_\_ F.IF.8 Write a function in different but equivalent forms. [2-3]

\_\_\_\_ F.IF.8a Use the process of factoring (and expanding) in a quadratic function to show zeros (intercepts), extreme values (vertex) and symmetry of the graph. [4]

**11. a.** Make a table of the following equation:  $y = -x^2 + 6x - 5$

|   |    |   |   |   |   |   |   |   |
|---|----|---|---|---|---|---|---|---|
| x | -1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| y |    |   |   |   |   |   |   |   |

**b.** Sketch a graph of the table.



**c.** What are the roots for this equation?

**d.** What is the vertex for this equation?

**2. Factor the following expressions completely. Show your work.**

a.  $3x^2 - 12x$

b.  $3n^2 - 3n - 60$

c.  $18x^2 - 15x - 12$

**3. Multiply the following expressions and write in expanded form. Show all work.**

a.  $2x(2x - 3)$

b.  $(3x - 7)(3x + 7)$

c.  $4x(2x^2 - x + 10)$

4. Without graphing, fill in the following information for the given equations. Clearly show all calculations below.  
Don't forget to use correct notation.

a.  $y = 15x^2 - 21x - 18$

Factored form: \_\_\_\_\_

x-intercept(s): \_\_\_\_\_

y-intercept: \_\_\_\_\_

Line of symmetry: \_\_\_\_\_

Vertex: \_\_\_\_\_

b.  $y = (5x - 4)(2x + 3)$

Expanded form: \_\_\_\_\_

x-intercept(s): \_\_\_\_\_

y-intercept: \_\_\_\_\_

Line of symmetry: \_\_\_\_\_

Vertex: \_\_\_\_\_