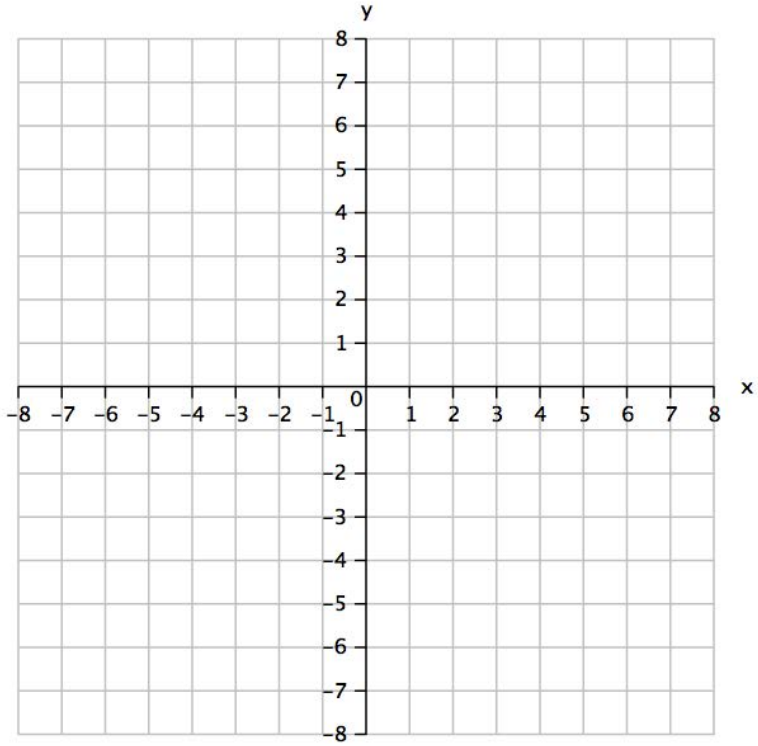
7.4 Factored form of the Quadratic Function

Quadratic	Intercepts	Factor

Graph: $y = x^2 - 6x + 8$

x	y



Minimum/maximum

Line of symmetry:

Vertex:

Domain:

Range:

What are the interesting points on this graph?

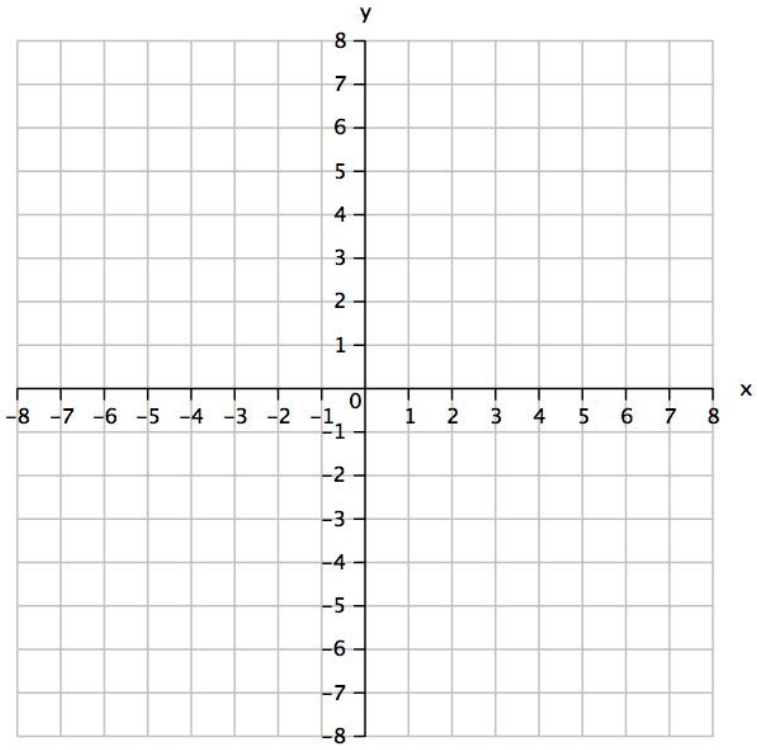
All quadratic functions can be written in factored form:

$$y = a(x - r)(x - s)$$

Example 1: Sketch the graph of $y = 2x^2 + 14x + 12$

What do you know about the parabola?

Factor the quadratic:



Find the x-intercepts (zeros). Look at each factor separately.

Line of symmetry:

Vertex

Example 2: Determine the quadratic function that defines this parabola. Write the function in standard form.