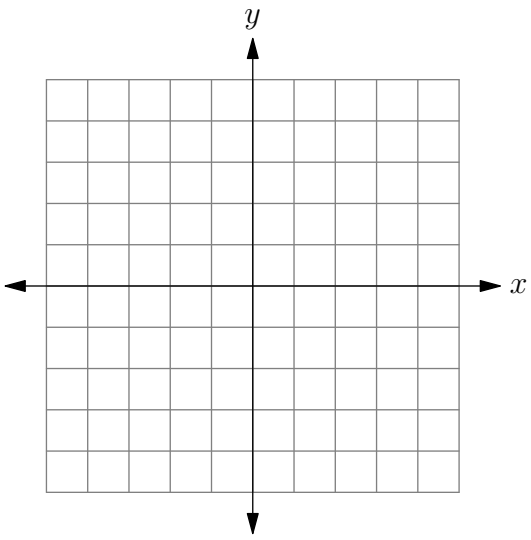
Retake 6A: Quadratic functions

MATH 1110, FALL 2017

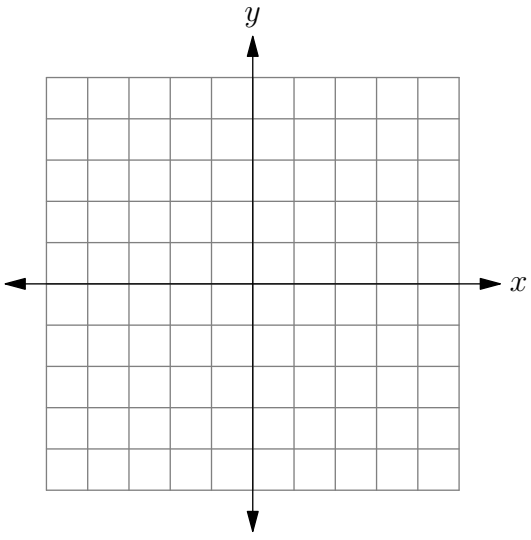
NAME:

1. (10 points) Graph each of the following parabolas.

   (a) $f(x) = -\frac{1}{2}x^2 + 3x + \frac{1}{2}$



   (b) $y = x^2 - 6x + 8$



2. (10 points) A experimental aircraft is launched at time $t = 0$. Its height above the ground is given by the function

$$y(t) = -6t^2 + 72t + 225,$$

where y is height (in meters) and t is time (in seconds).

(a) How high is the aircraft at the time it is launched?

(b) How high is it after 3 seconds?

(c) What is its maximum height?

(d) At what time does the aircraft strike the ground?