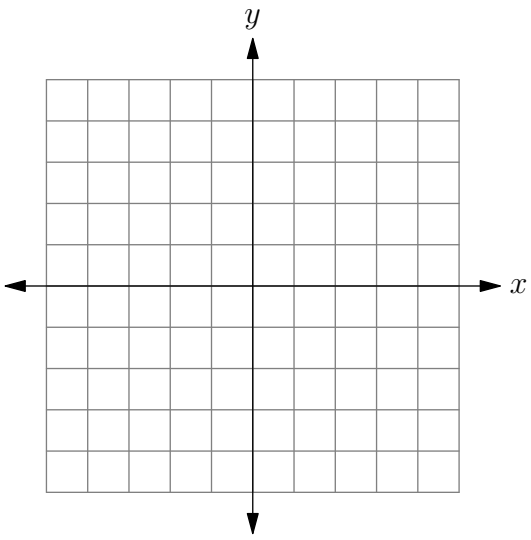
Quiz 6B: Quadratic functions

MATH 1110, FALL 2017

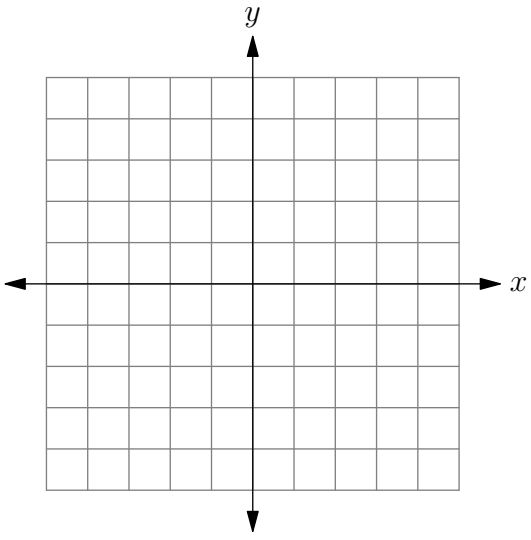
NAME:

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

   (a) $f(x) = \frac{1}{4}x^2 + \frac{1}{2}x - \frac{9}{4}$



   (b) $y = -x^2 - 4x - 5$



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

$$y(t) = -6t^2 + 84t + 15,$$

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 4 seconds?

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

(d) What is its maximum height?