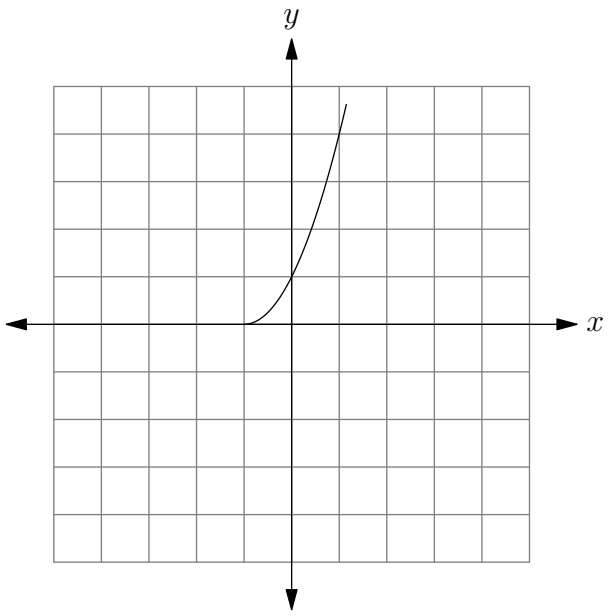
Retake 4A: Symmetry and functions

MATH 1110, FALL 2017

NAME:

1. (5 points) Part of a graph is shown below. Suppose you know this graph is symmetric with respect to the x-axis. Use this information to sketch the remaining part of the graph.



2. (5 points) Consider the following equation.

$$y^3 = x^2 + 1$$

Test this equation to see if the solutions are symmetric with respect to the x-axis, the y-axis, or the origin.

3. (10 points) Define the function $h(x) = x^2 + x$. Evaluate each expression, and simplify your answer as much as possible.

   (a) $h(-5)$

   (b) $h(2)$

   (c) $h(x + 3)$