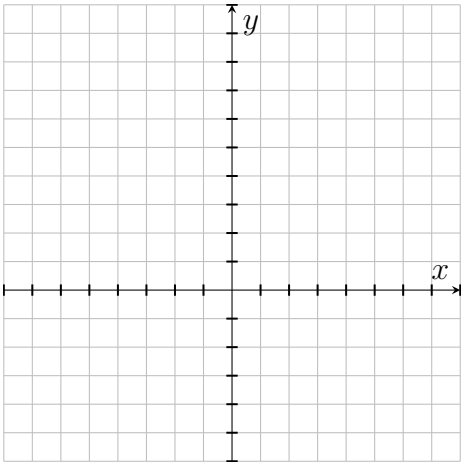
Name _____

Homework 10
Sections 3.3 & 3.4

1. (4) Given the function $q(x) = \begin{cases} -\sqrt{2} & x < -3 \\ x + 5 & -3 \leq x \leq 3 \\ x^2 - 4 & x > 3 \end{cases}$, evaluate each of the following:

   (a) $q(-4)$ (b) $q(-3)$ (c) $q(3)$ (d) $q(6)$

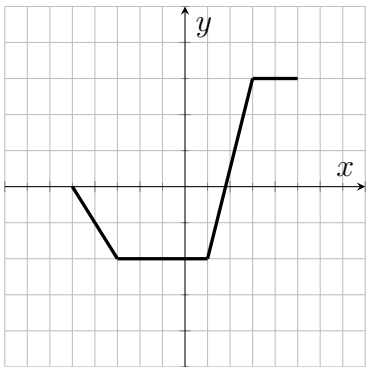
2. (3) Sketch the piece-wise defined function $g(x) = \begin{cases} -x & x < -3 \\ x^2 & -3 \leq x < 2 \\ 4 & x > 2 \end{cases}$ on the axes below. Assume each axis is marked in units of 1.



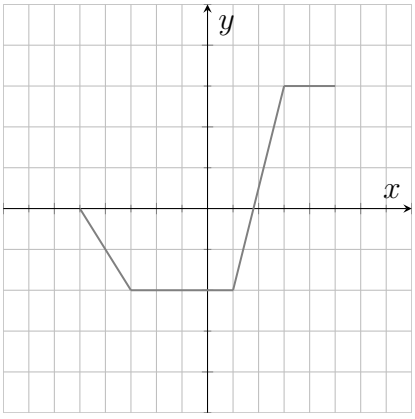
3. (2ea) If $(7, 4)$ is a point on the graph of $y = h(x)$, determine a point which MUST be on the graph of the following:

   a) $y = h(x - 1) + 1$ b) $y = -h(x + 2)$ c) $y = -h(x) + 10$

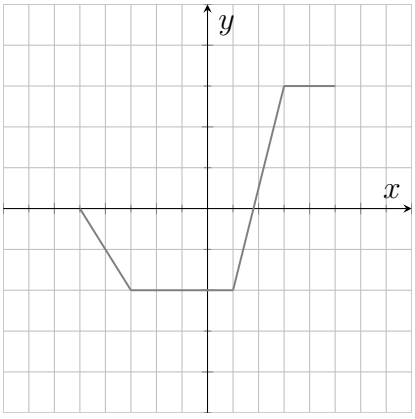
4. (8) Use the graph of $y = f(x)$ given below to sketch the graphs of each of the following.



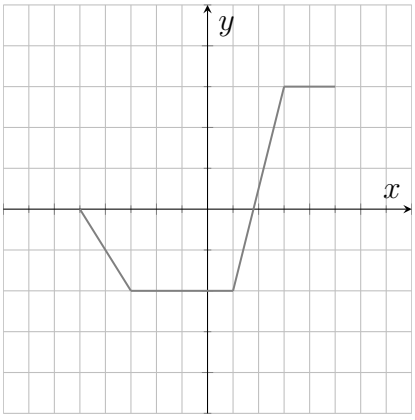
a) $y = f(x + 3)$



b) $y = f(x) - 2$



c) $y = f(x - 3) + 2$



d) $y = -f(x)$