Example 4. In each of the two parts below, you are given a funct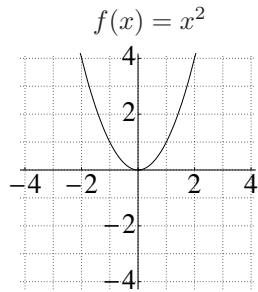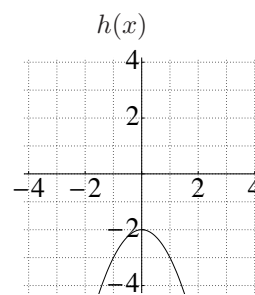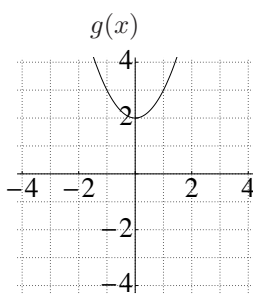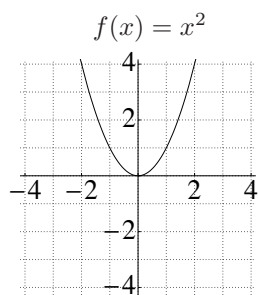ion f and are shown two transformations, g and h, of f. Describe in words how g is obtained from f, and how h is obtained from g, and then find formulas for g and h. Check your answers either using a graphing calculator or by plotting test points.

(a)

$f(x) = x^2$ $g(x)$ $h(x)$

(b)

$f(x) = x^2$ $g(x)$ $h(x)$
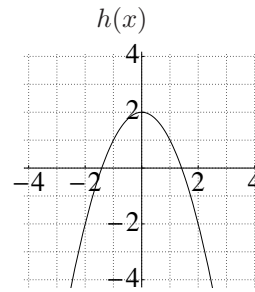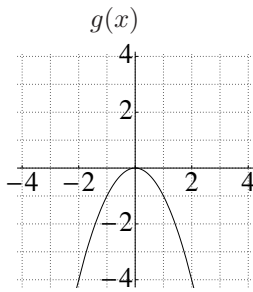
Examples and Exercises

1. Write formulas for each of the following transformations of the function $q(p) = p^2 - p + 1$.

   (a) $q(p-1)$ (b) $q(p) - 1$ (c) $-2q(-p)$