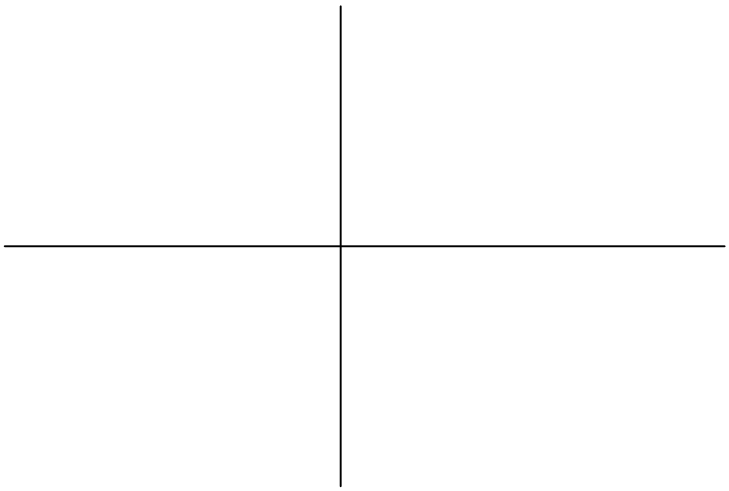
Library of Functions and Transformations 2 NAME:

For each of the following, sketch a **rough graph** of the functions. Part a will be a general function. You should have these graphs in your head. Part b will be a transformation of that function. On your graph, label which function is which. Also, in words, describe the transformation(s). It might also be a good idea is you labeled the scale of the axes (especially for the vertical and horizontal shifts).

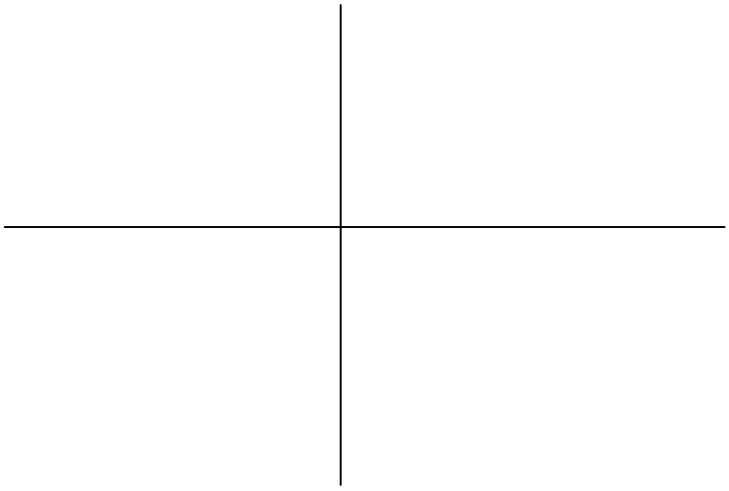
1a) $y = x$

1b) $y = x + 3$



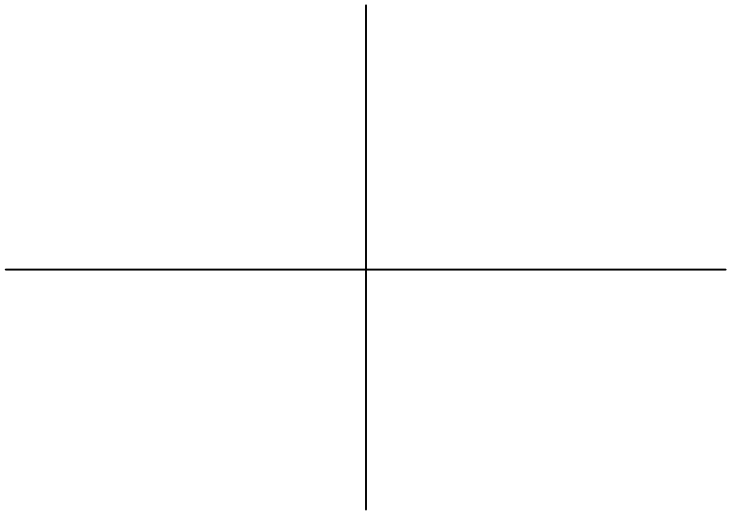
2a) $y = x^2$

2b) $y = \frac{1}{3}x^2$



3a) $y = x^3$

3b) $y = (x-2)^3$



4a) $y = |x|$

4b) $y = 2|x| - 4$