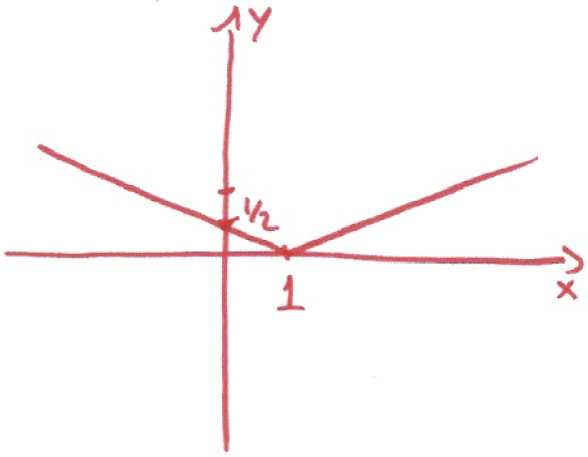
Problem 9: Choose a, b, c, d in $af(bx + c) + d$ so that the graph of $f(x) = |x|$ is as in (a),(b),(c) below and sketch the new graph.

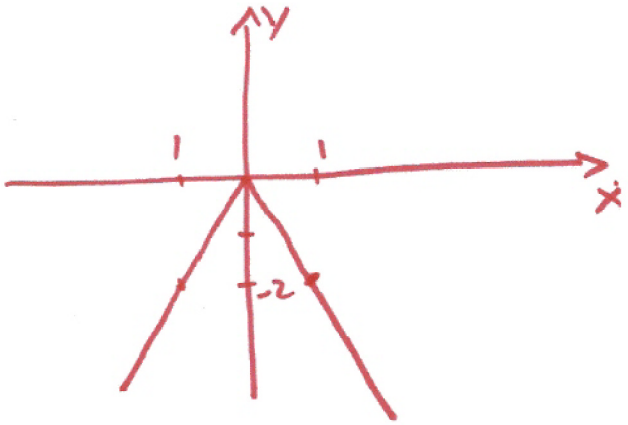
(a) Shifted by 1 to the right and compressed by 2 vertically.

$\frac{1}{2} f(x-1) = \frac{1}{2}|x-1|$



(b) Compressed by 2 horizontally and flipped about the x-axis.

$-f(2x) = -|2x|$



(c) Flipped about the y-axis and shifted up by 1.

$f(-x) + 1 = |-x| + 1$