let our parent function be $p(x)$.
- affects outside parent.

$p(x)+a$

$ap(x)$

- inside parent affects inversely

$p(x+a)$ to get $p(0)$, need input as $p(1) = p((-a)+a)$ ← new input slot.

$p(x-a)$

$p(ax)$ $\quad p(1) = p(a \cdot a^{-1}) = g(a^{-1})$

$-p(x)$

$p(-x)$

a)

b)

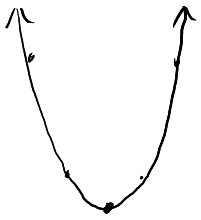
a) $f(x-1)$

a+b) $f(x-1)+2$

$(x-1)^2+2$

$h(2x) = \sqrt{2x}$

$(x+3)^2$ roots: $-3, -2$



left

right

up

down

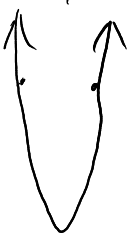
$\sqrt{-x}$

reflects

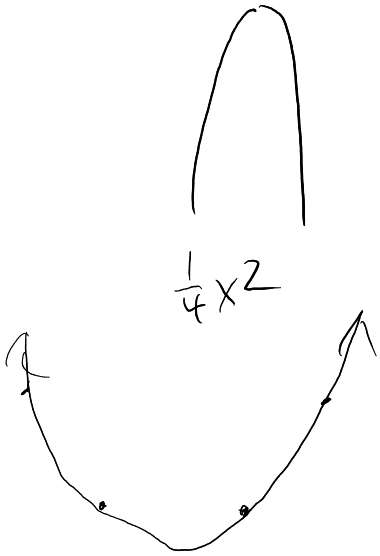
y

$-x^2$

reflects



$4x^2$



$\frac{1}{4}x^2$

shrinked
stretched

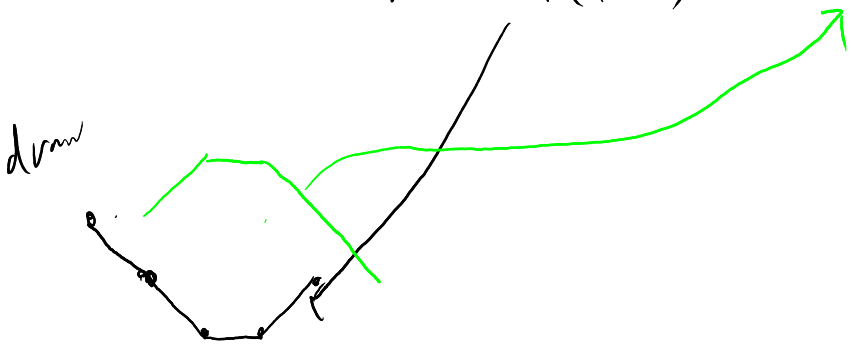
$3x^2$

$\frac{1}{3}x^2$

stretched
compressed

inside point: horiz. trans. — "inside affects x's inversly"
outside point: vert. trans

me: $-f(x+2)$ them: $2+f(-x)$.



Others, play subdivide: start w/ 8 teams, when ten wins, team splits till singleton, then teams merge.