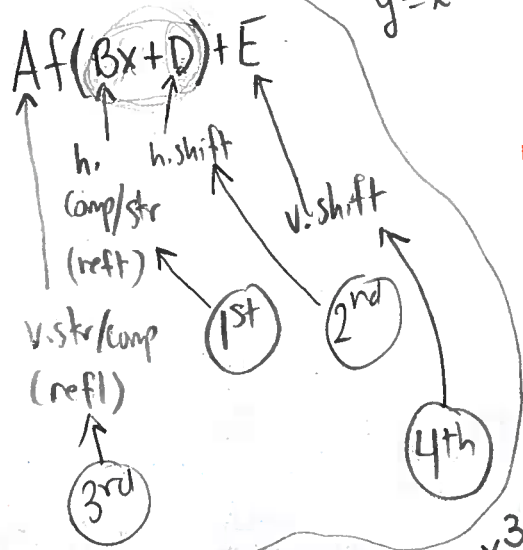


Ex: Sketch

$y = -(x+2)^3 + 1$

base $y = x^3$

General



vertical reflection
mult. y-values by -1

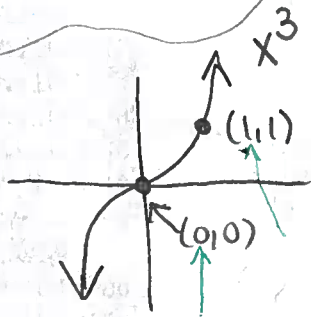
2nd

vertical shift up by 1
add 1 to y-values

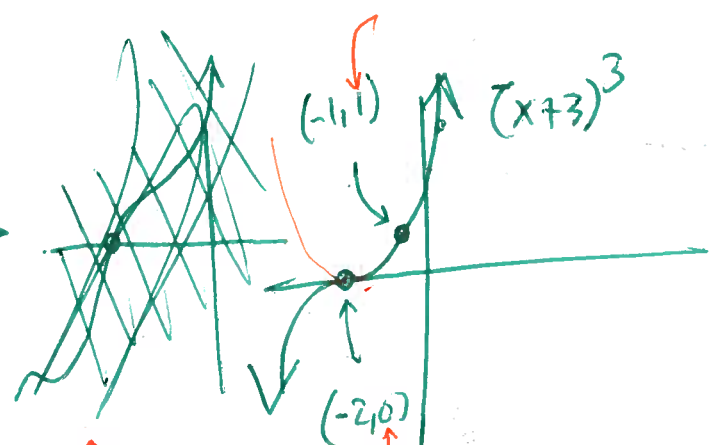
3rd

horiz shift left by 2
subtr 2 from x-values

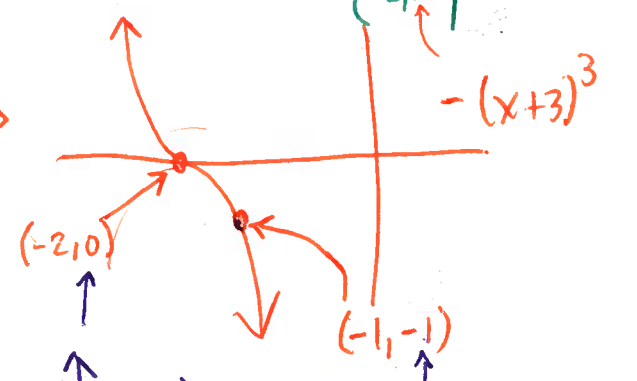
1st



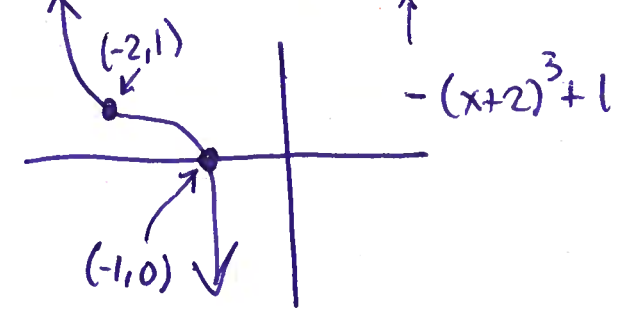
h. shift



v. refl



v. shift



Ex: Sketch

$$y = -5\sqrt{-4(x-3)} + 2$$

(2)

v.refl
and
v.str
mult y-vals
by -5

3rd

h.refl
and
h.comp.
div x-vals
by -4

1st

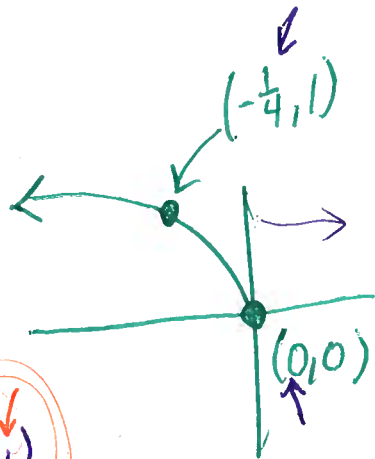
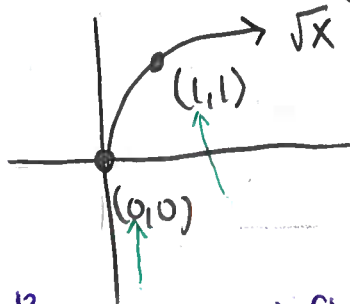
h.shift
right 3
add 3 to
x-vals

2nd

v.shift up 2
add 2 to y-vals

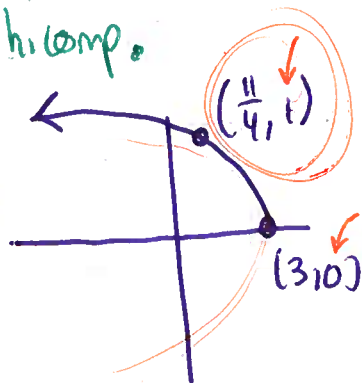
4th

Soln:

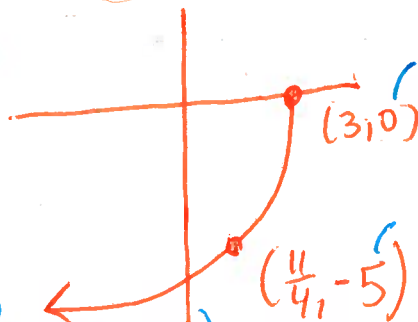


$$-\frac{1}{4} + 3 = -\frac{1}{4} + \frac{12}{4} = \frac{11}{4}$$

h.shift
right

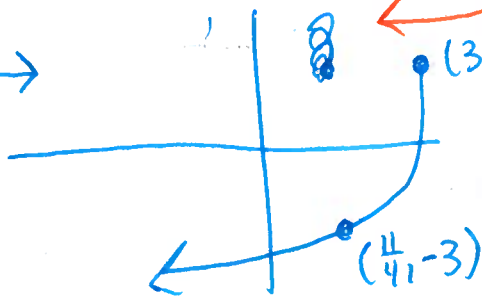


v.stretch
v.refl



$$-5 + 2 = -3$$

v.shift

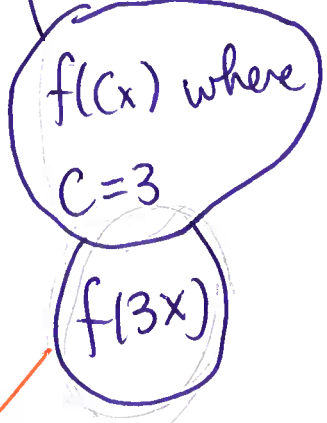


3

Ex: Spz $f(x) = |x|$ + graph of $g(x)$ is graph of $f(x)$ horizontally compressed by a factor of 3 and vertically reflected.

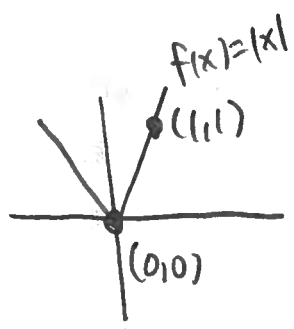
Find formula for $g(x)$:

$= f(x)$

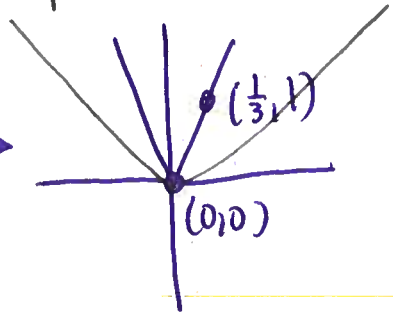


$g(x) = -f(3x)$

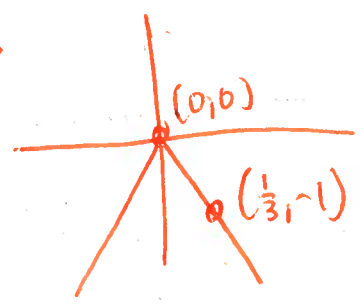
$= -|3x|$



h. comp



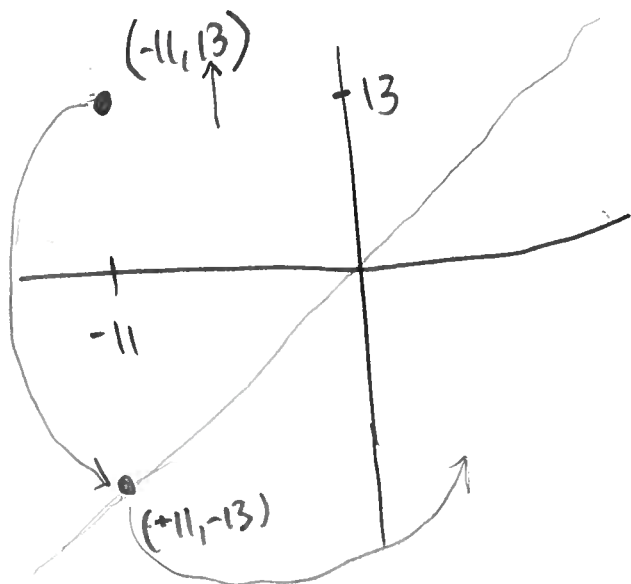
v. refl



HW6 P10

Symm wrt x-axis \leftrightarrow reflect across x-axis

4

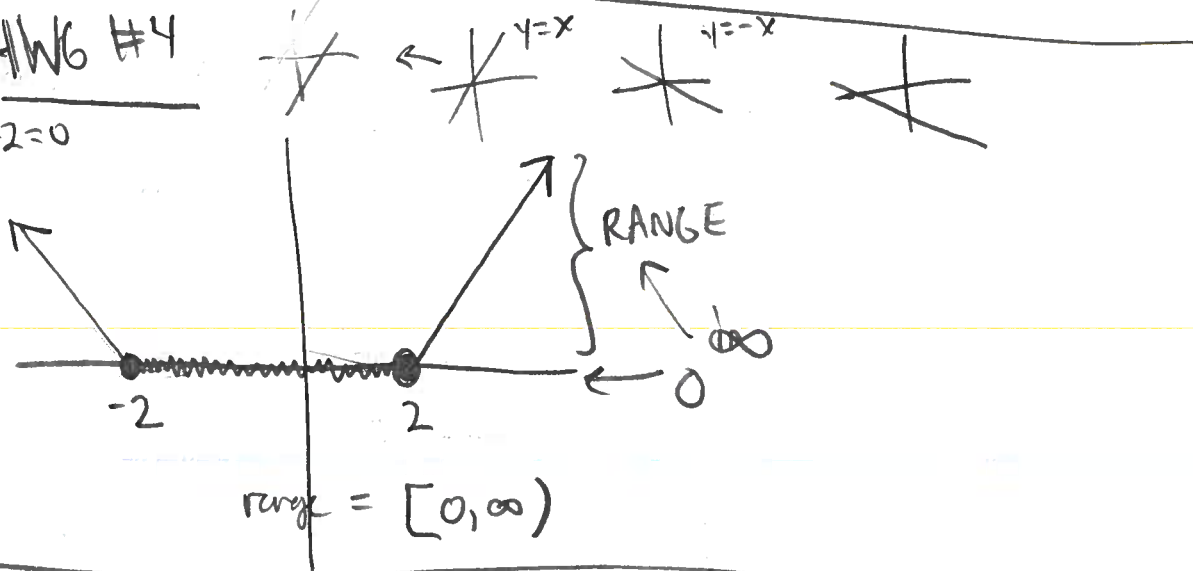


$f(-11) = 13$
 $-f(11) = -13$

HW6 #4

$f(-2) = -(-2) - 2 = 2 - 2 = 0$

$f(2) = 2 - 2 = 0$



Rel min

