

$$y = a f(b(x-h)) + k$$

a) vertical stretch/shrink

negative \rightarrow flipped over x-axis

b) horz. stretch/shrink

negative \rightarrow flipped over y-axis

h) opp. of h goes L/R

k) up and down

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

$$2) f(x) = \frac{1}{2}(2)^{x+1} + 2$$

$$3) f(x) = -\frac{1}{3}[-x+2] - 3$$

$$4) f(x) = \frac{1}{x-2} + 3$$

$$5) f(x) = -3 \sin(-2x+4) - 3$$

make sure calc in rad.

$$y = a^x$$

$a > 1$ exp. growth

$0 < a < 1$ exp. decay