

February 15, 2017

$$h(x) = x^3 - 2x$$

$$\frac{(x+h)^3 - 2(x+h) - (x^3 - 2x)}{h}$$

$$\frac{[(x+h)(x+h)(x+h) - 2x - 2h - x^3 + 2x]}{h}$$

$$\frac{(x^2 + 2xh + h^2)(x+h) - 2x - 2h - x^3 + 2x}{h}$$

Feb 15-9:27 AM

$$f(x) = \frac{2}{|x| + 3}$$

$$\frac{2}{|x+h| + 3} - \left(\frac{2}{|x| + 3} \right)$$

Feb 15-11:18 AM

Transformations

$$y = a \cdot f[b(x-h)] + k$$

Horizontal

Vertical

k: moves f(x) up or down
+k -k

h: move f(x) left or right
(-h) (+h)

b: ① opens up or down
(-b) (+b)
left or right

② Shrink or Stretch
b > 1 0 < b < 1

a: ① up or down

② Shrink or Stretch
a > 1 0 < a < 1

Feb 15-11:21 AM

$$f(x) = \sqrt{x}$$

$$h(x) = -\sqrt{x+3} - 2$$

a = -1 b = 1 h = -3 k = -2

Feb 15-11:44 AM