

February 15, 2017

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

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

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

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

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

Feb 15-9:26 AM

Transformations

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

Horizontal

Vertical

Desmos.com

k: Vertical up or down

h: Horizontal left or right
 (-h) (+h)

b: ① opens up or down
 (+b) (-b)

② Shrink or Stretch
 b > 1 0 < b < 1

a: ① opens up or down
 (+a) (-a)

② Shrink or Stretch
 a > 1 0 < a < 1

Feb 15-10:20 AM

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

$$g(x) = -\sqrt{x-2} + 5$$

Feb 15-10:43 AM