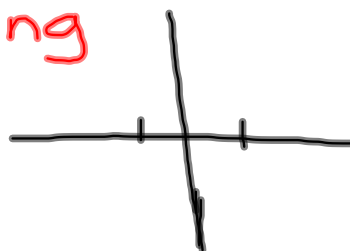


$(-\infty, -1)$  : increasing

$(-1, 1)$  :

$(1, \infty)$  : increasing



$$x^3 - 8$$

$$x^3 - a^3 = (x-a)(x^2 + ax + a^2)$$

$$(x-2)(x^2 + 2x + 4)$$

$$x=2 \quad x = \frac{-2 \pm \sqrt{4 - 4(1)(4)}}{2(1)}$$

$$x = \frac{-2 \pm \sqrt{4 - 16}}{2}$$

$$\frac{1}{5}(x^5 - 5x)$$

$$\frac{1}{5}x^5 - x$$

$$\frac{x^5 + 5x}{5}$$

$$\frac{x^5}{5} + x$$

$$x^4 - 1$$

$$0 = (x^2 - 1)(x^2 + 1)$$

$$0 = x^2 - 1$$

$$1 = x^2$$

$$x = \pm 1$$

$$0 = x^2 + 1$$

$$-1 = x^2$$

$$x = \text{DNE}$$