05/04/2018

$f(x) = |x^2 - 4x + 3| \geq 1$

$$f(x) = \begin{cases} x^2 - 4x + 3 & \text{se } f(x) \geq 0 \\ -(x^2 - 4x + 3) & \text{se } f(x) < 0 \end{cases}$$

para $f(x) \geq 1$, $f(x) = x^2 - 4x + 3$

$f(1) = |1^2 - 4(1) + 3| = 1 - 4 + 3 = 0$

~~$|x^2 - 4x + 3| = \sqrt{|x^2 - 4x + 4|}$~~

~~$|x - \sqrt{4x} + \sqrt{3}| = |x - \sqrt{4x} + \sqrt{3}|$~~

~~$0 = x - \sqrt{4x} + \sqrt{3}$~~

~~$x = \sqrt{4x} + \sqrt{3}$~~

$|x^2| + |-4x| + |3| \geq 1$

$$|x^2| = \begin{cases} x^2 & \text{se } x \geq 0 \\ -x^2 & \text{se } x^2 < 0 \end{cases}$$

$$= \begin{cases} x^2 & \text{se } x \geq 0 \\ -x^2 & \text{se } x < 0 \end{cases} \Big\} 1$$

$$|-4x| = \begin{cases} -4x & \text{se } -4x \geq 0 \\ -(-4x) & \text{se } -4x < 0 \end{cases}$$

$$= \begin{cases} -4x & \text{se } x \leq 0 \\ -(-4x) & \text{se } x > 0 \end{cases} \Big\} 1 \Big\} 2$$

$f(x) = |x^2 - 4x + 3| \geq 1$

1	$x \geq 0$	$x^2 + (-4x) + 3$
2	$x \leq 0$	$x^2 - 4x + 3$

$f(x) = |x^2 - 4x + 3| \geq 1$

se $x \geq 0$ $\quad f(x) = x^2 + (4x) + 3 \geq 1$