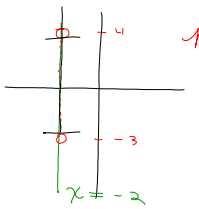
September 30, 2015

$\{(-2, y) \mid -3 < y < 4\}$




not a function

Sep 30-11:11 AM

$f(x) = -x^2 + 3x + 4$

$f(x+3) = -(x+3)^2 + 3(x+3) + 4$

$= -(x+3)(x+3) + 3x + 9 + 4$

$= -(x^2 + 6x + 9) + 3x + 13$

$= -x^2 - 6x - 9 + 3x + 13$

$= \boxed{-x^2 - 3x + 4}$

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$f(x) = \dfrac{2x}{x^2 - 3} = 0$

$\sqrt{x^2} = \pm\sqrt{3}$

$x = \pm\sqrt{3}$

$-\infty \quad -\sqrt{3} \quad \sqrt{3} \quad +\infty$

$D: (-\infty, -\sqrt{3}) \cup (-\sqrt{3}, \sqrt{3}) \cup (\sqrt{3}, \infty)$

Sep 30-11:18 AM

$\dfrac{f(x+h) - f(x)}{h}$

$f(x) = \boxed{x^2 + 3}$

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

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

$\dfrac{x^2 + 2xh + h^2 + 3 - x^2 - 3}{h}$

$\dfrac{2xh + h^2}{h}$

$\dfrac{h(2x + h)}{h}$

$\boxed{2x + h}$

Sep 30-11:23 AM

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

$\dfrac{(x+h)^2 + 2(x+h) + 1 - (x^2 + 2x + 1)}{h}$

$\dfrac{x^2 + 2xh + h^2 + 2x + 2h + 1 - x^2 - 2x - 1}{h}$

$\dfrac{2xh + h^2 + 2h}{h}$

$\dfrac{h(2x + h + 2)}{h}$

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$f(x) = \dfrac{x+1}{x}$

$\dfrac{\frac{(x+h)+1}{(x+h)} - \left(\frac{x+1}{x}\right)}{h}$

$\dfrac{\frac{x+h+1}{x+h} - \frac{x+1}{x}}{h}$ LCD: $x(x+h)$

$\dfrac{\frac{x(x+h+1) - (x+1)(x+h)}{x(x+h)}}{h}$

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

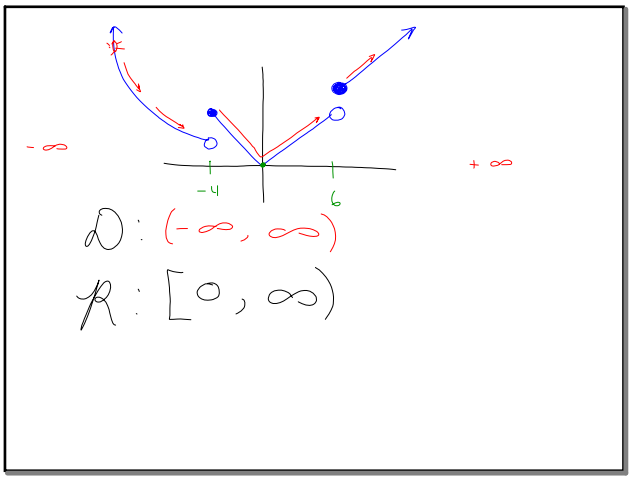
$\dfrac{\frac{x^2 + xh + x - x^2 - xh - x - h}{x(x+h)}}{h}$

$\dfrac{\frac{-h}{x(x+h)}}{\frac{h}{1}}$ K C F

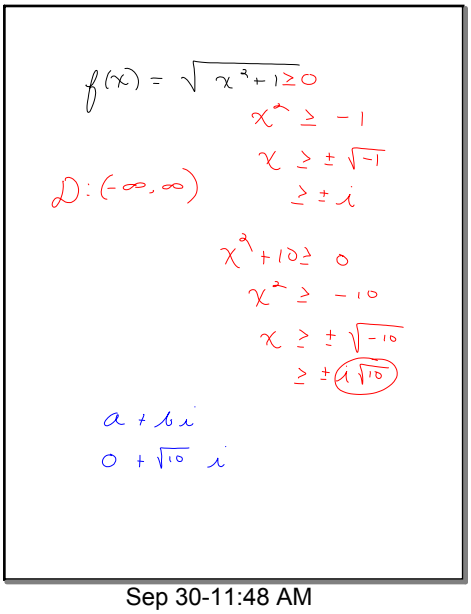
$\dfrac{-h}{x(x+h)} \cdot \dfrac{1}{h}$

$-\dfrac{1}{x(x+h)}$

Sep 30-11:31 AM




Sep 30-11:41 AM




Sep 30-11:48 AM