

9,5

نام و نام خانوادگی: فرید خاوری
پاسخنامه تشریحی تکلیف شماره: کلاس:

$$f(x+1) + f(x-1) = 1^x x + f(1^x) \Rightarrow 2f(x) = 3 - f(0)$$

$$f(1) = 1 \Rightarrow \sqrt{f(x) - x^2} \Rightarrow \sqrt{-x^2 + 1} = \sqrt{x(x-1)} \Rightarrow R_f = [1, 100]$$

$$R_f = [-1, \frac{1}{2}]$$

1,0

$$R_f \rightarrow \frac{x(x+1)(x-1)}{(x+1)} = y = x^2 - 1x$$

$$x^2 - 1x = y$$

$$x^2 - 1x = 1$$

$$x = 1 \rightarrow a$$

$$x = -1 \rightarrow b$$

$$C = -1$$

$$f\left(\frac{a+b}{2C}\right) = f(-1) = 1$$

0

$$a = -4 \quad b = 12$$

$$[-4, 12]$$

$$-4 - 2 = -8$$

$$12 - 2 = 10$$

$$[-1, 10] = R_f$$

$$\sqrt[3]{(x-2)^3} = x-2 \leftarrow \sqrt[3]{x^3 + ax^2 + bx + 1}$$

$$(x-2)^3 \Rightarrow x^3 - 6x^2 + 12x - 8$$

2

$$y = \frac{ax^2 - 1}{x^2 + b}$$

$$\left(\frac{x-1}{x+1}\right)^6 \leftarrow \left(\frac{x+1}{x-1}\right)^6$$

$$y(x^2 + b) = ax^2 - 1$$

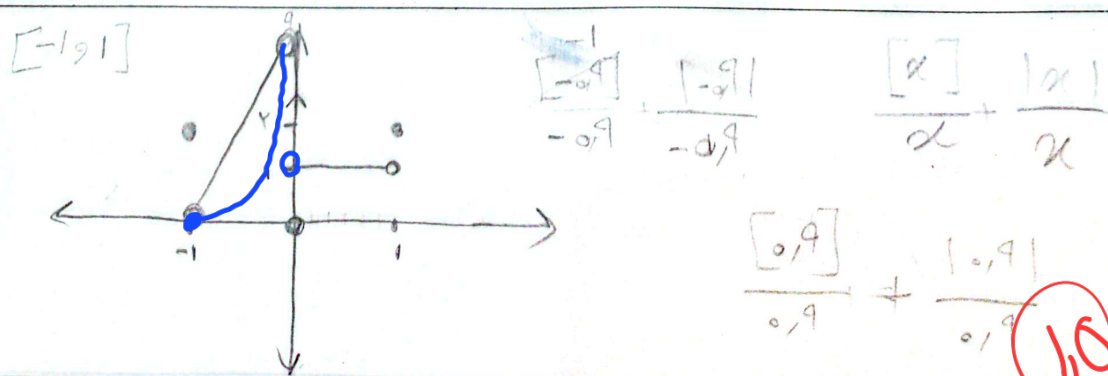
$$y(x^2 - ax^2 + by - 1) = 0 \Rightarrow x^2(y-a) + by - 1$$

$$b^2 - 4(-1)(y-a) \geq 0 \Rightarrow b^2 + 4y - 4a \geq 0$$

$$D_f = [-1, 1)$$

$$a = 1 \quad b = 1 \quad a + b = 2$$

0

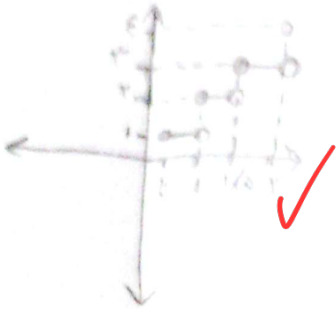


1,0

فرد خا زی

$$\left(\frac{1}{2}, 1\right)$$

$$[x] + [x + \frac{1}{2}]$$



مجموعه

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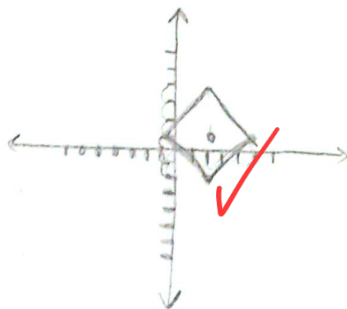
$$-1 < \frac{x+1}{ax+b} < 1 \Rightarrow \frac{x+1-ax-b}{ax+b} < 0 \Rightarrow \frac{(1-a)x-1}{ax+b} < 0 \Rightarrow a=1$$

$$0 < \frac{(1+a)x+b}{ax+b} \quad \left(\left|\frac{x+1}{ax+b}\right|\right)^p < 1^p$$

$$|x+1|^p - (ax+b)^p < 0 \rightarrow a=1 \quad a-b=1$$

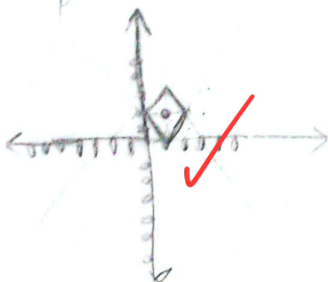
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$$|x-1| + |y-1| = 1$$

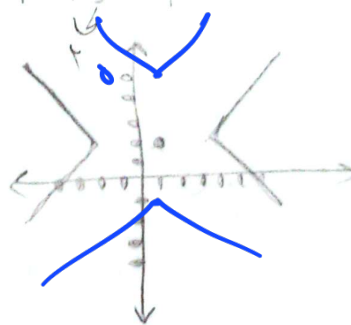


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$$|x-1| + |y-2| \leq 1$$



$$|x-1| + |y-2| = -1$$



1

$$y = 3x + |ax+b|$$

نشان بده که این است که شب ها هم علامت باشد.

$$m_1, m_2 > 0 \quad (3-a)(a+3) > 0$$

$$-3 < a < 3$$

0

10