

Subject...

Maths

1/2

Day...

Month...

Year...

$$\sqrt{f(x) - f(x+1)}$$

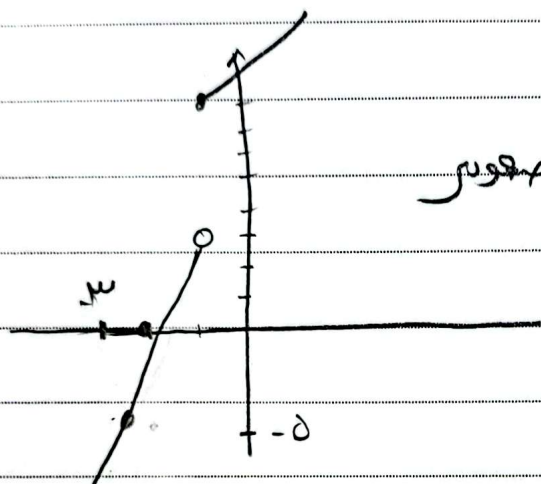
$$f(x) > f(x+1)$$

$$x > x+1 \Rightarrow x < -1 \Rightarrow x < -1$$

✓

$$f(x) = \begin{cases} x+1 & x > 1 \\ x-1 & x < -1 \end{cases}$$

$$f(x) = \begin{cases} x+1+\delta & x+1 > 1 \\ x-1 & x > -1 \\ x+1-\delta & x+1 < -1 \\ x-1 & x < -1 \end{cases}$$



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

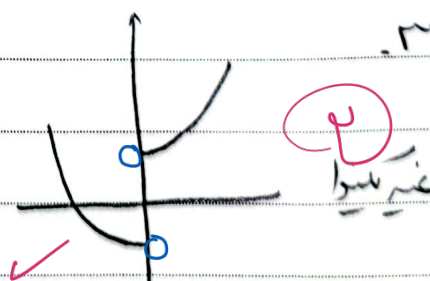
$$f(x) < f(x^2) \Rightarrow f(x) < x^4 \Rightarrow (x^2 + x)^2 < x^4 \Rightarrow x^2 + x < x \Rightarrow x^2 < 0 \Rightarrow x < 0$$

$$y = |x| \left(x^2 + \frac{1}{x} \right)$$

$$x > 0 \Rightarrow x^2 + 1$$

$$x < 0 \Rightarrow -x^2 - 1$$

دامنه $x \neq 0$



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$$\frac{x+1}{|x|-|x+1|}$$

$$|x|-|x+1|$$

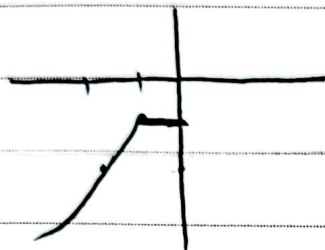
-1	0
$-x+x+1$	$-x-x-1$
1	$-x-1$
	-1

$$\frac{x}{x+1}$$

$$\frac{x}{x+1}$$

$$\frac{x+1}{-x-1}$$

$$\frac{x+1}{-1} = -x-1$$

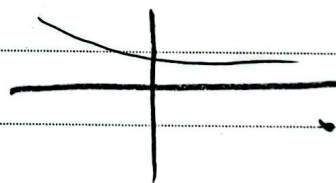
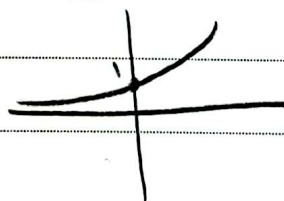


$$(-\infty, a]$$

$$a=0 \quad a, k, \max$$

-a

$$(a^2-3)^x$$



$$0 < a^2-3 < 1$$

$$a^2-3 > 1 \Rightarrow a^2 > 4 \Rightarrow a > 2 \text{ or } a < -2$$

$$a^2-3 > 1 \Rightarrow a^2 > 4 \Rightarrow a > 2 \text{ or } a < -2$$

$$a^2-3 \geq 0 \Rightarrow a \geq \pm\sqrt{3}$$

$$f(x) = x^2 + ax^2 + bx + c$$

$$a=1$$

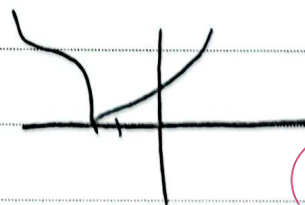
$$a(x+3)^k - 1$$

$$x^k + 3kx^{k-1} + 9x^{k-2} + \dots$$

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

$$x+3=1$$

$$x=-2$$



$$(k \geq 1)$$

$$k=-2$$

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$$\sqrt[3]{9\cos^2 t - 1} - \sqrt[3]{1 - 9\cos^2 t} \quad 9$$

2

$$-1 \leq \cos^2 t \leq 1 \Rightarrow -1 \leq 9\cos^2 t \leq 9 \Rightarrow -1 \leq 9\cos^2 t - 1 \leq 8 \Rightarrow -1 \leq \sqrt[3]{9\cos^2 t - 1} \leq 2$$

4

$$\sqrt[3]{9\cos^2 t - 1} = t$$

5

$$f(t) = r^t - r^{-t} \quad -1 \leq t \leq 1 \Rightarrow \left[-\frac{\pi}{2}, \frac{10}{2}\right]$$

7

صاف
نزول

$$b - a = \frac{10}{2} + \frac{\pi}{2} = \frac{\pi}{2}$$

8

9

10

11

12

13

14