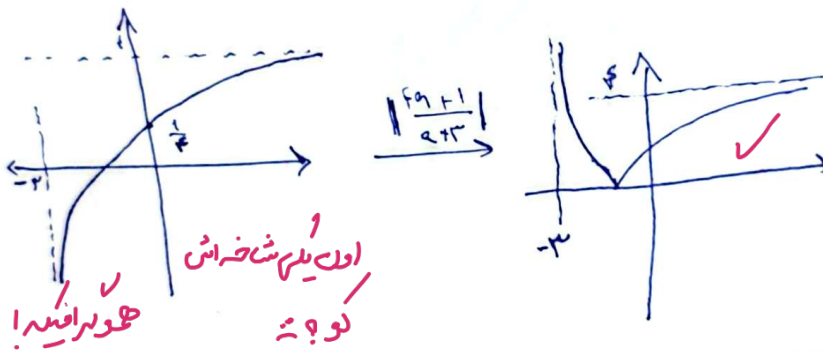
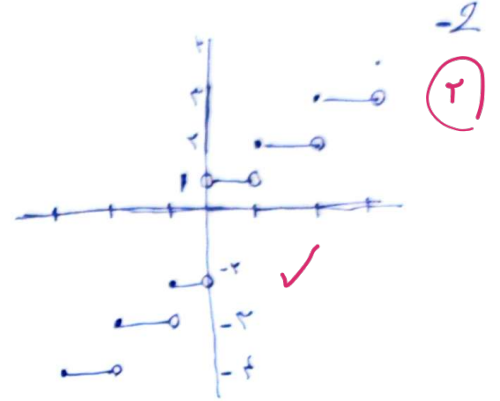


فرهام ووزنه A دوازدهم پیر - تالیف نماه

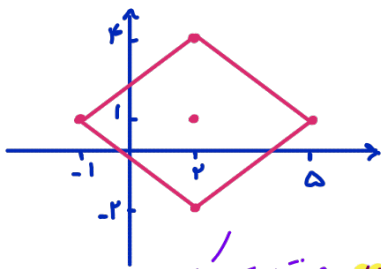
الف) $f(a) = 2 \sin^2(a + \frac{\pi}{4}) - 1$ $\sin^2 a \max = 1 \rightarrow f(a) \max = 1 \rightarrow R_F = [-1, 1] - 1$
 $\sin^2 a \min = 0 \rightarrow f(a) \min = -1$ (2)

ب) $3 \cos^2 a - 4$ $\max \cos^2 a = 1 \rightarrow f(a) \max = -1$
 $\min \cos^2 a = 0 \rightarrow f(a) \min = -4$ } $R_F = [-4, -1]$

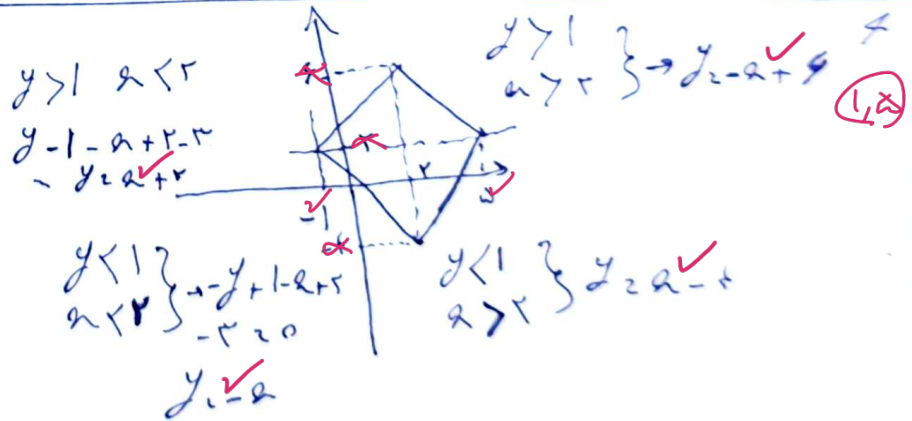
$-3 \leq a < -2 \rightarrow \frac{a}{|a|} = -1, [a] = -3 \rightarrow y = -4$
 $-2 \leq a < -1 \rightarrow \frac{a}{|a|} = -1, [a] = -2 \rightarrow y = -3$
 $-1 \leq a < 0 \rightarrow \frac{a}{|a|} = -1, [a] = -1 \rightarrow y = -2$
 $0 \leq a < 1 \rightarrow \frac{a}{|a|} = 1, [a] = 0 \rightarrow y = -1$
 $1 \leq a < 2 \rightarrow \frac{a}{|a|} = 1, [a] = 1 \rightarrow y = 0$
 $2 \leq a < 3 \rightarrow \frac{a}{|a|} = 1, [a] = 2 \rightarrow y = 1$
 $a = 3 \rightarrow y = 2$



$|y-1| + |y-2| - 3 = 0$



(2, 1): حقیقتاً نه میزن



$a + \frac{1}{a} + 2\sqrt{a + \frac{1}{a}} - 2(\sqrt{a + \frac{1}{a}} + 1) - 1 \rightarrow \sqrt{a + \frac{1}{a}} \rightarrow D_F = [2, +\infty)$ (5)
 $\rightarrow R_F = (\sqrt{2} + 1)^2 - 1 = 2 + 1 + 2\sqrt{2} - 1 = 2 + 2\sqrt{2} \rightarrow R_F = [2\sqrt{2} + 2, +\infty)$

ب) $(3 - \sin a)(\sin^2 a + 1) = -\sin^2 a + 3\sin a + 3$
 $\min \sin a = -1 \rightarrow -1 - 3 + 3 = -1 \rightarrow R_F = [-1, 4]$
 $\max \sin a = 1 \rightarrow -1 + 3 + 3 = 5$

$$R_F = 2, 3, \dots, \infty \rightarrow 9K(1.) + (-\frac{1}{2})(1+2+3+\dots+4) \rightarrow 9. - \frac{45}{2} = 9. - 18 \quad \boxed{7.5}$$

(۲) (۶)

$$D_F = [2, +\infty) \rightarrow \text{درجه ۲ و ۳} \rightarrow a, 2b \rightarrow \text{درجه ۲ و ۳}$$

(۱) (۷)

$$\rightarrow 2b + c = 0 \rightarrow b = -\frac{c}{2}$$

$$g(a) = \sqrt{a^2 + 1} \rightarrow f_{(g)} = [2, +\infty)$$

(۲) (۳)

$$\frac{a(a-2)(a+2)}{a+2} \rightarrow f(a) = a^2 - 2a = \lambda \rightarrow a^2 - 2a - \lambda = 0 \rightarrow a = \frac{2 \pm \sqrt{4 + 4\lambda}}{2} = 1 \pm \sqrt{1 + \lambda}$$

$$f_F = \left[-1, +\infty \right) \rightarrow f\left(\frac{1-2}{-2}\right) = f(-1)$$

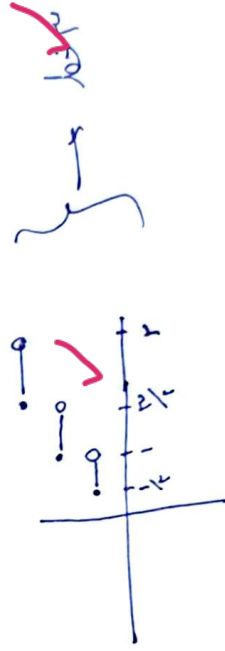
کامل بنویس!

(۱) (۷)

$$\sqrt{(a-2)^2} = a-2 \rightarrow a-2 \rightarrow D = [-2, +\infty) \rightarrow R_F = [2, +\infty)$$

(۲) (۱)

$$y = [a] + \left[a + \frac{1}{2}\right]$$

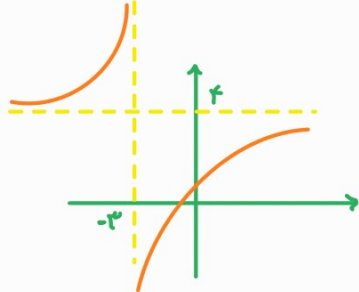


$$\frac{1}{2} < a < 1$$

$$1 \leq a < \frac{3}{2}$$

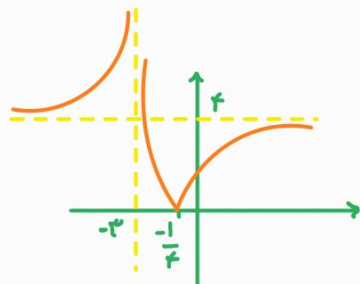
$$\frac{3}{2} \leq a < 2$$

$$y = \frac{4x+1}{x+3}$$



قدر مطلق دور خط، مقترها رو پاب میسنه قترینه
میسنه بالات

$$y = \left| \frac{4x+1}{x+3} \right|$$



۷- با توجه به دامنه، زیر رادیکال یک خط با شیب مثبت بوده یعنی $a=0$ است و نقطه $(2,0)$ هم در معادله خط صدق می‌کنند...

$$\begin{cases} (2,0) \rightarrow 2b+c=0 \\ (2,1) \rightarrow 3b+c=1 \end{cases} \rightarrow b=1, c=-2$$

$$g(x) = \sqrt{x^2+4} \rightarrow \text{ext} \Big|_2^0 \Rightarrow R_g = \sqrt{[4, +\infty)} = [2, +\infty)$$

۹- چون عدد ثابت عبارت زیر رادیکال، -8 است پس حتماً $(x-2)^3$ بوده و داریم:

$$y = \sqrt{x^3 - 4x^2 + 12x - 8} \rightarrow a = -4, b = 12 \rightarrow D_y = [-4, 12]$$

$$x = -4 \rightarrow y = -8$$

$$x = 12 \rightarrow y = 10$$

$$\rightarrow R_y = [-8, 10]$$