

تکلیف ها

بازار هم رفتی

سعی کنید

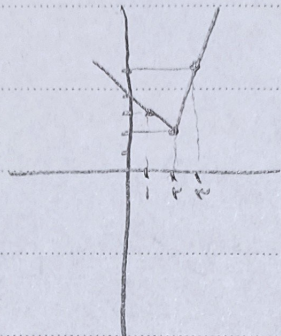
$$y = a + |2a - 1| \quad \rightarrow 2a = 1 \rightarrow a = \frac{1}{2}$$

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

$$a - 1 < 0 \quad \begin{cases} a + 2a - 1 \\ -a + 1 \end{cases} \quad \begin{cases} 3a - 1 \\ 1 - a \end{cases}$$

$$\begin{array}{c|ccc} a & 1 & 2 & 3 \\ \hline y & 1 & 2 & 0 \end{array}$$

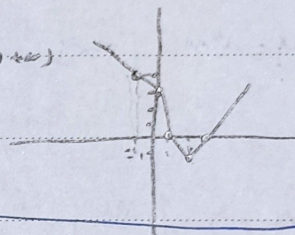
$$R_{y_1} = [2, +\infty)$$



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$$R_{y_1} = [-1, +\infty)$$



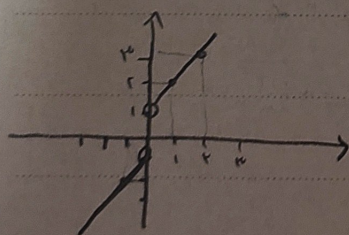
$$|2a - 1| + |a + 2| = |a|$$

$$f(a) = -10 \rightarrow k = -10$$

$$\begin{array}{c|ccc} a & -1 & 0 & 1 \\ \hline y & 1 & 2 & 0 \end{array} \rightarrow \min y = 1$$

$$y = a + \frac{a}{|a|}$$

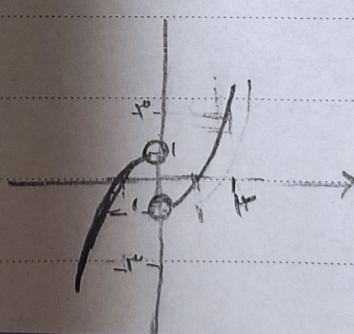
$$\begin{array}{c|ccc} a & -1 & 0 & 1 \\ \hline y & 1 & 2 & 0 \end{array}$$



$$y = a|a| - \frac{a}{|a|}$$

$$\begin{array}{c|ccc} a & -1 & 0 & 1 \\ \hline y & 1 & 2 & 0 \end{array}$$

$$\begin{array}{c|ccc} a & 1 & 2 & 3 \\ \hline y & 0 & 2 & 1 \end{array}$$



$$[-2, 2]$$

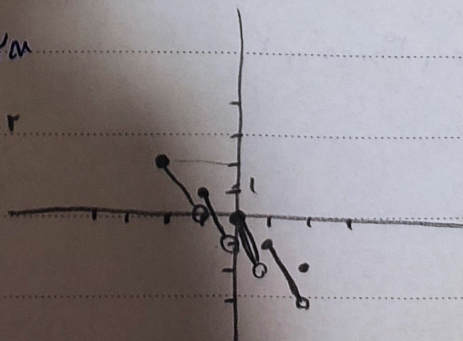
$$[a] - 2a$$

$$a = 2 \rightarrow y = -2 \quad -2 \leq a < -1 \rightarrow -2a - 2$$

$$-1 \leq a < 1 \rightarrow 1 - 2a$$

$$0 \leq a < 1 \rightarrow -2a$$

$$-1 \leq a < 0 \rightarrow -2a - 1$$



$$b) [a] | \cos |$$

$$a = 2 \rightarrow y = 2$$

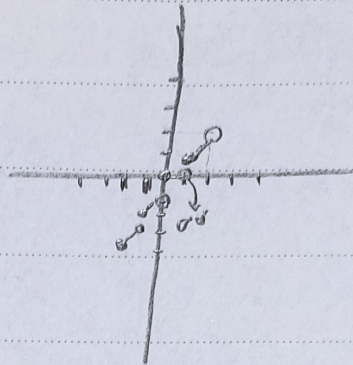
$$a = -2 \rightarrow y = -2$$

$$1 \leq a \leq 2 \rightarrow |a|$$

$$0 \leq a < 1 \rightarrow 0$$

$$-1 \leq a < 0 \rightarrow -|a|$$

$$-2 \leq a < -1 \rightarrow -2|a|$$



$$الف) y = \cos - [\cos]$$

$$R_y = [0, 1]$$

$$ع) a - \omega \left[\frac{a}{\omega} \right]$$

$$\omega \left(\frac{a}{\omega} - \left[\frac{a}{\omega} \right] \right) \rightarrow R_y = [0, \omega]$$

$$[0, 1]$$

$$\rightarrow y = \cos - [\cos]$$

$$f(\cos) - [\cos]$$

$$[\cos]$$

$$\rightarrow R_y = [0, 1]$$

$$\Rightarrow y = [\cos] - \cos$$

$$= -(\cos - [\cos]) \rightarrow R_y = [-1, 0]$$

$$[0, 1]$$

$$-\sqrt{4+9} \leq -\sqrt{13}$$

$$الف) y = 3 \sin \alpha + 2 \cos \alpha$$

$$-\sqrt{13} \leq$$

$$\leq \sqrt{13}$$

$$R_y = [-\sqrt{13}, \sqrt{13}]$$

$$-\sqrt{a} \leq r \sin \alpha + \omega \cos \alpha \leq +\sqrt{a}$$

$$ع) y = [r \sin \alpha + \omega \cos \alpha]$$

$$-4 \leq [r \sin \alpha + \omega \cos \alpha] \leq \omega$$

$$R_y = \{-4, -2, -1, \dots, 12, 15, \omega\}$$

$$-\sqrt{4+9} \leq$$

$$\leq +\sqrt{4+9}$$

$$\Rightarrow y = 3 \sin \alpha - 2 \cos \alpha$$

$$R_y = [-\omega, \omega]$$

$$-\sqrt{a} \leq r \cos \alpha - r \sin \alpha \leq +\sqrt{a}$$

$$\Rightarrow y = \sqrt{\cos \alpha - r \sin \alpha}$$

$$0 \leq \sqrt{\cos \alpha - r \sin \alpha} \leq \sqrt{a}$$

$$\hookrightarrow R_y = [0, \sqrt{a}]$$

$$الف) y = \sin^2 \alpha + 3 \sin \alpha + 2$$

$$\frac{-b}{2a} = \frac{-3}{2} \rightarrow y = -\frac{1}{2}$$

$$a = -1 \rightarrow y = 0 \quad a = 1 \rightarrow y = 4$$

$$R_y = [0, 4]$$

$$\Rightarrow y = 3 \sin^2 \alpha + 3 \sin \alpha + 2$$

$$\frac{-b}{2a} = \frac{-3}{2} \rightarrow y = \frac{3}{2}$$

$$a = -2 \rightarrow y = 1$$

$$a = 1 \rightarrow y = 5$$

$$R_y = \left[\frac{3}{2}, 5 \right]$$

Date: / /

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Subject:

$$y = \sin^2 \alpha + r \cos^2 \alpha$$

$$\Rightarrow y = \frac{r \cot^2 \alpha}{1 + \cot^2 \alpha}$$

$$\frac{\sin^2 \alpha + \cos^2 \alpha}{1} + \frac{r \cos^2 \alpha}{\cos^2 \alpha} \rightarrow R_{y_1} = [1, r]$$

$$\frac{\frac{r \cos^2 \alpha}{\sin^2 \alpha}}{\frac{1}{\sin^2 \alpha}} = \frac{r \cos^2 \alpha \sin^2 \alpha}{\sin^2 \alpha} = r \cos^2 \alpha$$

$$0 \leq \cos^2 \alpha \leq 1$$

$$R_{y_2} = [-1, 1]$$

$$y = \sin^4 \alpha + \cos^4 \alpha \quad R_{y_1} = \left[\frac{1}{2}, 1 \right]$$

$$\Rightarrow y = [\sin^4 \alpha + \cos^4 \alpha]$$

$$\frac{1-r}{2} \leq \sin^4 \alpha + \cos^4 \alpha \leq 1$$

$$\frac{1}{2} \leq \sin^4 \alpha + \cos^4 \alpha \leq 1$$

$$\frac{1}{2} \leq \sin^4 \alpha + \cos^4 \alpha \leq 1$$

$$\frac{1}{2} \leq \sin^4 \alpha + \cos^4 \alpha \leq 1$$

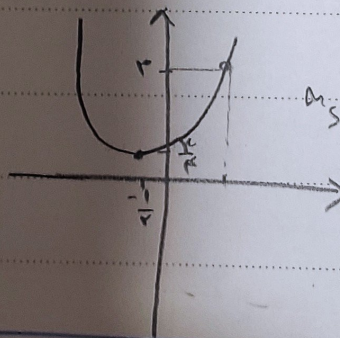
$$R_{y_2} = \{0, 1\} \text{ = مجموع دو حالت = 1}$$

$$y = \frac{r a^2 + b a - c}{a + b} \quad R_{y_1} = R - \{-a\}$$

$$\Rightarrow y = \frac{a^2 - 1}{a - 1} = \frac{(a-1)(a+1)}{(a-1)} = a+1$$

$$\frac{(a+b)(ra-1)}{(a+b)} = ra-1$$

$$a \neq -1 \rightarrow y \neq -a$$



$$R_{y_2} = \left[\frac{1}{r}, r \right] \text{ and } a_5 = \frac{1}{r} \rightarrow y_{\min} = \frac{1}{r}$$