

نام خانوادگی: ترنم بیانی

Subject:

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$$f_g = \{(-1, 2), (0, 1), (2, 0), (1, 4)\} \quad (1)$$

$$f(-1) = 0, f(0) = 1, f(2) = 0, f(1) = 4 \Rightarrow f_g = \{(-1, 0), (0, 1), (1, 4)\}$$

$$\Rightarrow A = f_g - f_g = \{(-1, 2), (0, 1), (1, 4)\} \Rightarrow R_A = \{2, 1, 4\}$$

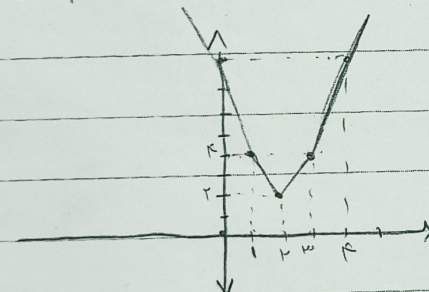
$$f(2) = 0 \Rightarrow R_f = [0, +\infty), g(1) = 4 \Rightarrow R_g = (-\infty, 4] \quad (2)$$

$$\Rightarrow R_f \cup R_g = (-\infty, 4] \cup [0, +\infty)$$

$$g = \frac{-x^2}{2} + x + 3 \rightarrow \text{vertex} \begin{cases} -\frac{b}{2a} = \frac{-1}{-1} = 1 \\ g = -\frac{1}{2} + 1 + 3 = \frac{5}{2} \end{cases} \Rightarrow \quad (3)$$

$$10 \quad g = \frac{3}{x} \Rightarrow -3 = -x^2 + 2x \Rightarrow x^2 - 2x - 3 = 0 \Rightarrow x = -1, x = 3$$

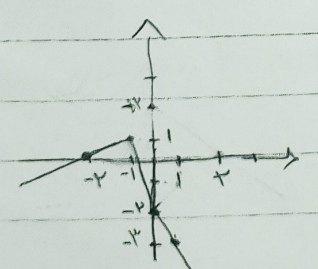
$$b = 3, a = -1, a = 3 \Rightarrow \sqrt{b - a_{\min}} = \sqrt{3} = 2$$

$$y = |x-1| + |x-3| + |2x-4| \quad (4)$$


x	1	2	3
$ x-1 $	0	1	2
$ x-3 $	2	1	0
$ 2x-4 $	2	0	2
y	4	2	4

$$x=0 \Rightarrow y=4, x=4 \Rightarrow y=4$$

$$\Rightarrow y_{\min} = 2$$

$$y = |x-2| + |x+1| \quad (5)$$


x	-1	0	2
$ x-2 $	3	2	0
$ x+1 $	0	1	3
y	3	3	3

$$x=1 \rightarrow y=2$$

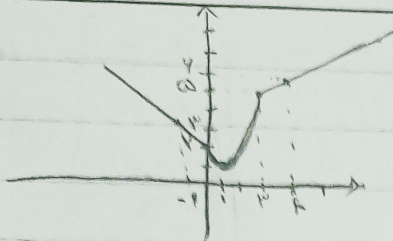
$$x=-2 \rightarrow y=0$$

$$\Rightarrow R_y = [1, +\infty)$$

← منصفه ← (4)

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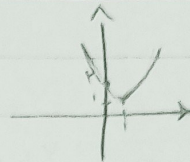
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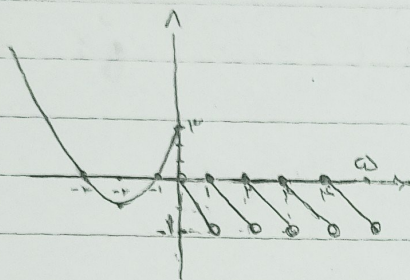
$$2P - Pn + P \rightarrow$$

$$-\frac{b}{p_{01}} \leq \frac{p_1}{p} \leq 1$$

$$\rightarrow R_p = [1, \infty)$$



⑤



$$n^p + km, p$$

$$-\frac{b}{k_{01}} \quad s \quad -\frac{r}{r} \quad s \quad -r$$



$$\begin{aligned} [Y_m] - Y_m \xrightarrow{(0,1)} -Y_m, \quad [Y_m] - Y_m \xrightarrow{(1,0)} Y - Y_m \\ \xrightarrow{(1,1)} Y - Y_m \Rightarrow R_f = [-1, +\infty) \end{aligned}$$

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$$\begin{aligned} \varphi(n+\kappa) >_0 &\Rightarrow \varphi(n) >_{- \kappa} \Rightarrow n >_{- \frac{\kappa}{r}} \Rightarrow b = - \frac{\kappa}{r} \\ (-\infty, a] &\rightarrow \omega = a+1-\sqrt{0} \Rightarrow \omega = a+1 \Rightarrow a \leq t \Rightarrow ab = tx - \frac{\kappa}{r} = -9 \end{aligned}$$

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$$f(x) + g(x) = \sqrt{1+x} + \sqrt{1-x} = \sqrt{\frac{1+x}{2}}^2 + \sqrt{\frac{1-x}{2}}^2 = \sqrt{\frac{(1+x)^2 + (1-x)^2}{2}}$$

$$\Rightarrow \sqrt{(\sqrt{1+n} + \sqrt{1-n})^2} \Rightarrow \sqrt{1+n} + \sqrt{1-n} = \sqrt{4 + 4\sqrt{1-n^2}} \Rightarrow$$

$$f(m) + g(n) = 4(\sqrt{1+m} + \sqrt{1-n}) \Rightarrow \underbrace{f(m)}_{\text{w}} + \underbrace{g(n)}_{\text{w}} = \sqrt{1+m} + \sqrt{1-n}$$

$$\Rightarrow \frac{f(n)}{\mu} = \frac{\sqrt{1+n} + \sqrt{1-n} - g(n)}{\mu} \quad \mu \quad \mu$$

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$$\frac{4P(n)}{9} - \frac{4}{9}P(n) = \sqrt{1+n} + \sqrt{1-n} - \frac{g(n)}{4} - (\sqrt{n+1} + 4\sqrt{1-n})$$

$$\frac{f(m)}{q} - \frac{g(m)}{p} = (\sqrt{m+1}) + \sqrt{1-x} - \sqrt{1+x} - \sqrt{1-x}$$

$$\Rightarrow \frac{f(m)}{4} - \frac{g(m)}{\mu} = \sqrt{1-x}$$

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$$y = \frac{x^r + \omega x + m}{n+1} \Rightarrow y = \frac{(m+k)(n+1)(m-k)}{(n+1)}$$

(9)

$$\rightarrow \textcircled{1}: m = k \Rightarrow y = n+k \Rightarrow n \neq -1 \Rightarrow y \neq k \Rightarrow m \neq k$$

$$\textcircled{2} \quad yx + y = x^r + \omega x + m \Rightarrow x^r + (-y + \omega)x + m - y = 0$$

$$\Rightarrow b^r - 4ac = (\omega - y)^r - k(m - y) \geq 0 \Rightarrow y^r - \omega y + k\omega - km + ky \geq 0$$

$$(y - \omega)^r - k(m - k) \geq 0 \xrightarrow[y \leq k]{y \geq k} f(m - k) \geq 0 \Rightarrow m \leq k \xrightarrow[\textcircled{1} \cap \textcircled{2}]{\text{on } \textcircled{2}} m = \{-1, k, k\}$$