

Subject:

Date 14.4.17, 15

18, 20

ب نام خدا

فاطمه قتی - 8

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

$$\Rightarrow 2g - 3f$$

$$f = \{(-1, 2), (0, 5), X, (1, 2)\}$$

$$2 + 5 + 5 = 11$$

$$2g - 3f = \{(-1, -4), (-1, -5), (-1, -2)\} \cup \{(-1, 2), (1, 4), (0, 5)\}$$

$$f(x) = 2x - 1 \quad \begin{matrix} [4, +\infty) \text{ دایره} \\ (x, y) = 1 \end{matrix} \rightarrow R_f = [5, +\infty)$$

$$\cup \rightarrow (-\infty, 4] \cup [5, +\infty)$$

$$g(x) = \frac{1}{4}x + 3 \quad \begin{matrix} (-\infty, 3] \text{ دایره} \\ (\frac{1}{4}, x) + 3 \end{matrix} \rightarrow R_g = (-\infty, 4]$$

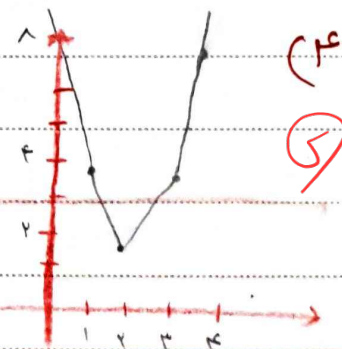
$$y = \frac{-x^2}{4} + x + 3 \rightarrow \text{ext} \quad \begin{cases} -\frac{b}{4a} = 1 \\ y = -\frac{1}{4} + 1 + 3 = \frac{9}{4} \end{cases}$$

$$y = \frac{9}{4} \rightarrow -\frac{9}{4} = -x^2 + 4x \Rightarrow x^2 - 4x - \frac{9}{4} = 0 \Rightarrow x = -1, 5$$

$$b = 4, a = -1, a = 3 \Rightarrow \sqrt{b-a} = \sqrt{7} = 2$$

1	2	3
$-x + 1 - x + 3 - 2x$	$x - 1 - x + 3 - 2x + 4$	$x - 1 - x + 3 + 2x$
$+ 4$	$-x^2 + 4$	$-x^2$
$\downarrow$	$\downarrow$	$\downarrow$
$-5x + 11$	$-2x + 4$	$2x - 2$
$\downarrow$	$\downarrow$	$\downarrow$
$-5x + 11$	$-2x + 4$	$2x - 2$

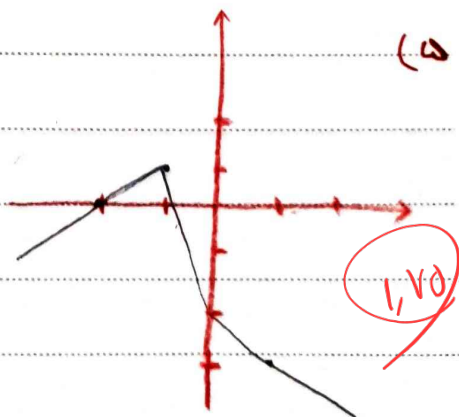
$$y_{\min} = 4$$



-1	0
$-x + 2x + 2$	$-x - 2x - 2$
$\downarrow$	$\downarrow$
$x + 2$	$-3x - 2$
$\downarrow$	$\downarrow$
$x + 2$	$-3x - 2$

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

$$R = (-\infty, 1)$$



Subject: _____
Date: _____

نمبر لکھنا

$$y = \frac{x^2 + \Delta x + m}{x+1} \Rightarrow y = \frac{(x+1)(x+1)(m-1)}{(x+1)}$$

(5)

$$\hookrightarrow m = 1 \Rightarrow y = x + 1 \xrightarrow{x \neq -1} y \neq 0 \Rightarrow m \neq 1$$

(5)

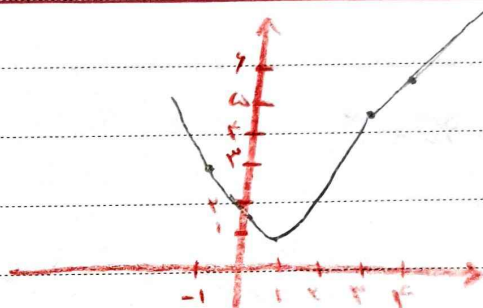
$$\hookrightarrow yx + y = \Delta x + x^2 + m \Rightarrow x^2 + (\Delta - y)x + m - y = 0 \rightarrow \Delta \geq 0$$

$$(\Delta - y)^2 - 4(m - y) \geq 0 \Rightarrow y^2 - 1 \cdot y + 4\Delta - 4m + 4y \geq 0 \Rightarrow (y - 1)^2 - 4(m - 1) \geq 0$$

$$y = 1 \Rightarrow 4(m - 1) \geq 0 \Rightarrow m \leq 1 \xrightarrow{\cap} m = \{1, 2, 3\}$$

$$x^2 - 2x + 1 \rightarrow \frac{-b}{2a} = 1$$

$$R_f = [1, +\infty)$$



(5)

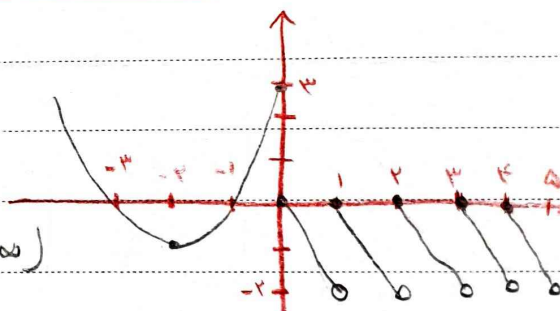
(1)

$$x^2 + 4x + 3 \rightarrow \frac{-b}{2a} = \frac{-4}{2} = -2$$

$$[2x] - 2x \xrightarrow{(0, 1)} -2x$$

$$[2x] - 2x \xrightarrow{[1, 2)} 2 - 2x \Rightarrow R_f = [-1, +\infty)$$

$$[2x] - 2x \xrightarrow{[2, 3)} 4 - 2x$$



(5)

(1)

$$2x + 3 \geq 0 \Rightarrow 2x \geq -3 \Rightarrow x \geq \frac{-3}{2} \Rightarrow b = \frac{-3}{2}$$

(5) (9)

$$\hookrightarrow (-\infty, \infty) \Rightarrow a = a+1 - \sqrt{\cdot} \Rightarrow a = a+1 \Rightarrow a = 1 \Rightarrow ab = 1 \times \frac{-3}{2} = -\frac{3}{2}$$

Subject :

$$D = [-1, 1]$$

Date

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$$f(x) + g(x) = \sqrt{1+x} + \sqrt{1-x} \quad (1.)$$

$$\sqrt{(\sqrt{1+x})^2 + (\sqrt{1-x})^2 + 2\sqrt{1-x}\sqrt{1+x}} \Rightarrow \sqrt{(\sqrt{1+x} + \sqrt{1-x})^2}$$

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

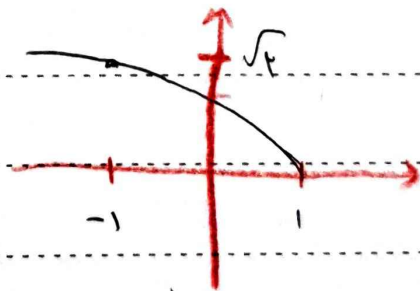
$$\frac{f(x)}{\sqrt{x}} + \frac{g(x)}{\sqrt{x}} = \sqrt{1+x} + \sqrt{1-x} \Rightarrow \frac{f(x)}{\sqrt{x}} = \sqrt{1+x} + \sqrt{1-x} - \frac{g(x)}{\sqrt{x}}$$

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

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

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

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



$$R = [0, \sqrt{x}]$$

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