

مستقيم

$$D_f \Rightarrow 1 - x^2 \geq 0 \Rightarrow x^2 \leq 1 \Rightarrow -1 \leq x \leq 1 \quad D_f \cap D_g = \{-1, b\}$$

$$\{-1, 2 \times 1 - 3 \times 0\} = (-1, 2), (1, 2 \times 1 - 3 \times 0) \Rightarrow \{(-1, 2), (1, 2), (b, 0)\}$$

$$R_f = (3 \times 1 - 1, +\infty) \rightarrow [2, +\infty) \quad R_g = (-\infty, 2]$$

$$(2, +\infty) \cup (-\infty, 2) \rightarrow \mathbb{R} - \{2\}$$

مستقيم

$$\frac{-x^2}{2} + x + 3 > \frac{3}{2} \Rightarrow x^2 - 2x - 3 < 0$$

$$\sqrt{b-a} = \sqrt{4+1} = \sqrt{5} < \sqrt{5} \quad (-1, 3) \text{ or } b$$

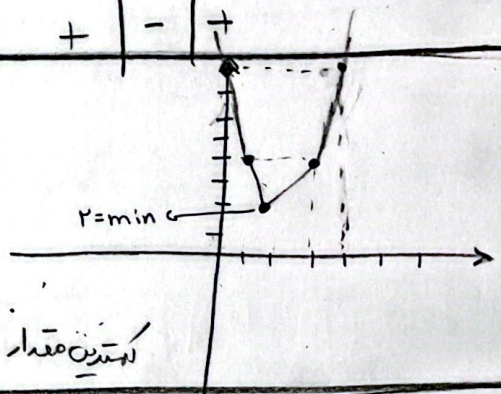
$$x^2 - 2x - 3 < 0$$

$$(x-3)(x+1)$$

$$y = |x-1| + |x-3| + |2x-4|$$

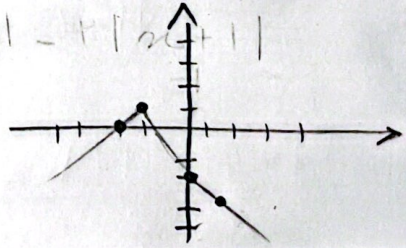
$$\hat{x}=1 \quad 3 \quad 2 \quad 2+1+2=5$$

$$\begin{bmatrix} 0 \\ 1 \end{bmatrix} \begin{bmatrix} 1 \\ 2 \end{bmatrix} \begin{bmatrix} 2 \\ 3 \end{bmatrix} \begin{bmatrix} 3 \\ 4 \end{bmatrix} \begin{bmatrix} 4 \\ 5 \end{bmatrix}$$



$$\begin{bmatrix} -2 \\ 0 \end{bmatrix} \begin{bmatrix} -1 \\ 1 \end{bmatrix} \begin{bmatrix} 0 \\ -2 \end{bmatrix} \begin{bmatrix} 1 \\ -3 \end{bmatrix}$$

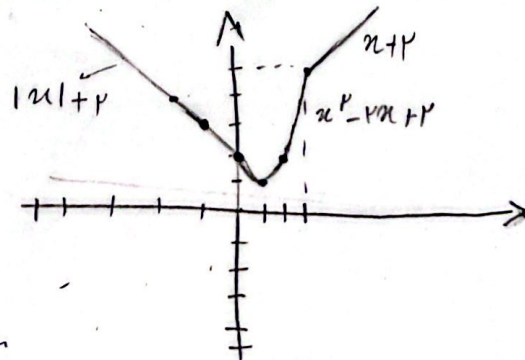
$$R = (-\infty, 1]$$



$$y = \frac{x^2 + \omega x + m}{x+1} \quad x^2 + (\omega - y)x + m - y = 0 \quad \Delta = \frac{b^2 - 4ac}{4a}$$

$$\Delta \geq 0 \Rightarrow \omega^2 + y^2 - 4\omega y + 4m - 4m \geq 0 \Rightarrow y^2 - 4y + 4m - 4m \geq 0 \Rightarrow \Delta \leq 0$$

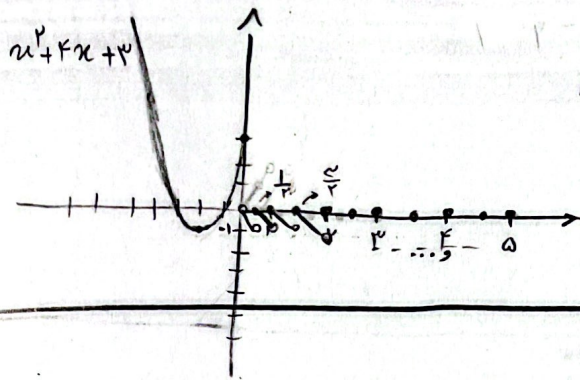
$$-4f \quad 100 + 14m < 0 \quad m < 4 \Rightarrow \{1, 2, 3\}$$



$$R = (4, +\infty)$$

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

(8)

برای مختصر شدن دادن فاصله‌ی بین ۲ عدد درست است
مقدور که مقیاس فاصله‌ها بیشتر روشن شده است

(9)

$$D_f \quad 2x + 3 > 0 \Rightarrow x > -\frac{3}{2} \Rightarrow \left[-\frac{3}{2}, +\infty\right)$$

$$R_f = (-\infty, a+1) \Rightarrow b = -\frac{3}{2} \text{ و } a = 4 \Rightarrow ab = -6$$

$$D_f = x \geq -1 \text{ و } x \leq +1 \Rightarrow [-1, 1]$$

(10)

$$3\sqrt{2+2\sqrt{1-x^2}} - (2\sqrt{x+1} + 4\sqrt{1-x}) = g(x)$$

$$3\sqrt{2+2\sqrt{1-x^2}} = 3\sqrt{(\sqrt{1-x} + \sqrt{1+x})^2} \Rightarrow 3\sqrt{1-x} + 3\sqrt{1+x}$$

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

$$\sqrt{x+1} + 1\sqrt{1-x} - \sqrt{2+2\sqrt{1-x^2}}$$

$$-2\sqrt{x+1} + 4\sqrt{1-x} + 2\sqrt{1-x} - 2\sqrt{x+1} = \sqrt{1-x}$$

$$0 \Rightarrow 1 - 19$$

$$\frac{1}{2} \Rightarrow \sqrt{\frac{1}{2}} + \sqrt{\frac{1}{2}} - \sqrt{1+1} = \sqrt{2} - \sqrt{2} = 0$$

$$R_{\sqrt{1-x}} = [0, \sqrt{2}]$$

$$f(\sqrt{2}+1)$$

$$R?$$