

دریاد مادی

سوال (۱)

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

$$g = \{(-1,1), (0,2), (1,1)\} \rightarrow R = \{(-1,2), (0,3), (1,2)\}$$

سوال (۲)

$$R_f = (x \times x) - 1 = d \rightarrow [0, +\infty)$$

$$R_f \cup R_g = (-\infty, 1] \cup [0, +\infty) = R - \{1, 2\}$$

$$R_g = \left(\frac{1}{x+1}\right) + x = x \rightarrow (-\infty, 1]$$

سوال (۳)

$$\frac{-2x}{x} + x + 2 > \frac{x}{x} \rightarrow -2x + x + 2 > 1 \rightarrow -x + 2 > 1 \rightarrow -x > -1 \rightarrow x < 1$$

$$\sqrt{b-a} = \sqrt{\frac{1-1}{x}} = 1$$

$$(a, b) = (-1, 1)$$

سوال (۴)

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

x < 1	1 < x < 2	2 < x < 3	x > 3
-x + 1 - x + 2 - x + 3 = -3x + 6	x - 1 - x + 2 - x + 3 = -x + 4	x - 1 + x - 2 - x + 3 = x	x - 1 + x - 2 + x - 3 = 3x - 6
y(1) = 2	y(2) = 2	y(3) = 3	y(4) = 6

سوال (۵)

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

x < -1	-1 < x < 0	0 < x
-x + 2x + 2 = x + 2	-x - 2x - 2 = -3x - 2	x - 2x - 2 = -x - 2

$$y = \begin{cases} x+2 & x < -1 \\ -3x-2 & -1 < x < 0 \\ -x-2 & x > 0 \end{cases}$$

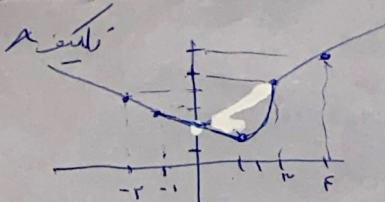
سوال (۶)

$$\frac{x^2 + 8x + 15}{x+1} \rightarrow \frac{(x+3)(x+5)}{(x+1)} \rightarrow x+2 + \frac{2x+15}{x+1}$$

در سامان

سوال ۷

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



سوال ۸

$$[x_2] - 2m \rightarrow [x_3] + \dots$$

$$R = [x_2 + \infty) \cup (-1, 0] - 1 \leq x \leq 0$$

سوال ۹

$$\sqrt{x+2} \geq 0 \rightarrow x+2 \geq 0 \rightarrow x \geq -2 \rightarrow x \geq -1/2$$

$$a+1 \in (-1, 0, +\infty)$$

$$b \in (-1, 0, +\infty) \rightarrow b \leq -1/2$$

$$x = -\frac{y}{2} \rightarrow y = 0 \rightarrow a = a + \sqrt{x^2 - \frac{y^2}{4} + p} \rightarrow a = x \rightarrow a \cdot b = x \cdot (-\frac{x}{2}) = -\frac{x^2}{2}$$

سوال ۱۰

$$\sqrt{x+1} \geq 0$$

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$$D_f = D_g = [-1, 1]$$

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

$$\downarrow$$

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

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

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

$$\frac{f(m)}{4} - \frac{g(m)}{2} = \frac{\sqrt{1-m}}{2} + \frac{2\sqrt{1-m}}{2} - \sqrt{1+m} - \sqrt{1-m} = -\frac{\sqrt{1+m}}{2}$$

$$\frac{2\sqrt{1+m}}{2}$$