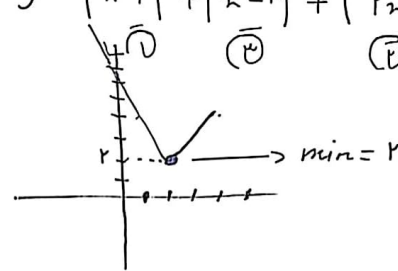
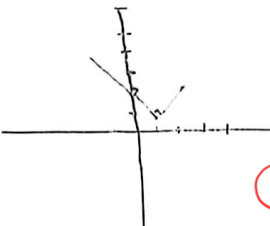
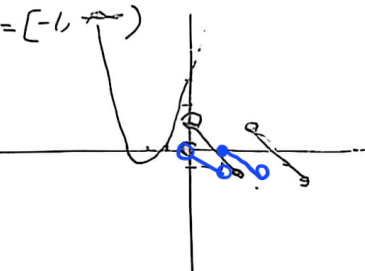


19,0

نام و نام خانوادگی: هجری شمسی پاسخنامه تشریحی تکلیف شماره ۸ کلاس: از: A	$f(x) = \sqrt{1-x^2} \rightarrow f \rightarrow -1 \leq x \leq 1 \rightarrow \{(-1,0), (0,1), (1,0)\}$ $\rightarrow 3f \rightarrow \{(-1,0), (0,3), (1,0)\}$ $g = f \circ (-1,1) \circ (0,3) \circ (1,0) \rightarrow 2g = \{(-1,2), (0,8), (1,4)\}$ $2g - 3f = \{(-1,2), (0,5), (1,4)\} \rightarrow 2+5+4 = 11$	1
$f(x) = 2x-1 \rightarrow D_f = [2, +\infty) \sim R = [5, +\infty)$ $g(x) = \frac{x}{x} + 3 \rightarrow D_g = (-\infty, 2] \rightarrow R = (-\infty, 4]$	$\rightarrow \text{عبارت} \rightarrow \mathbb{R} - (4,5)$ $\rightarrow \text{مجموعه}$	2
$y = \frac{-x^2}{x} + x + 3 \sim a, b, c, d \rightarrow \frac{-x^2}{x} + x + 3 > \frac{x}{x} \sim -x^2 + x + 4 > 1$ $\sim x^2 - 2x - 3 < 0 \rightarrow (x-3)(x+1) < 0$ $\Rightarrow a = -1, b = 3 \rightarrow \text{فاصله} = \sqrt{b-a} = \sqrt{3-(-1)} = \sqrt{4} = 2$	$\frac{-1}{+} \frac{3}{+} \rightarrow \begin{pmatrix} -1, 3 \\ \bar{a}, \bar{b} \end{pmatrix}$	3
$y = x-1 + x-3 + x-4 \rightarrow \frac{1}{-x+1} \frac{2}{-x+3} \frac{3}{x-4}$ 	$\min = 2$	4
$y = x - 2 x+1$ $\begin{cases} x > 0 \sim -x - (-x-1) \rightarrow x+1 \\ -1 \leq x \leq 0 \sim -x - 2x-2 \rightarrow -3x-2 \\ x < -1 \sim x - 2x-2 \rightarrow -x-2 \end{cases}$ $\mathbb{R} = (-\infty, 1]$	$\begin{cases} x = -1 \sim y = 1 \\ x = 0 \sim y = -1 \\ x = 1 \sim y = -3 \end{cases}$ 	5

$y = \frac{x^2 + 2x + m}{x+1} \leadsto y(x+1) = x^2 + 2x + m \leadsto x^2 + (2-y)x + m - y = 0$ $\Delta = (2-y)^2 - 4(m-y) \geq 0 \leadsto y^2 - 4y + 4 - 4m + 4y \geq 0 \leadsto y^2 - 4m \geq 0$ $\leadsto 16 - 4m \geq 0 \leadsto 16 \geq 4m \leadsto m \leq 4 \leadsto m \in \{1, 2, 3, 4\}$ $m=4 \rightarrow \frac{x^2 + 2x + 4}{x+1} = x+1, \frac{x^2 + 2x + 4}{x+1}$ مربعات IR نهشود	1, 2, 3, 4
$Q(x) = \begin{cases} x+2 & x \geq 2 \rightarrow x=2 \rightarrow y=0 \\ & \rightarrow x=4 \rightarrow y=4 \\ x^2 - 2x + 2 & 1 \leq x < 2 \rightarrow \begin{array}{c ccc} x & 1 & 2 & 4 \\ y & 1 & 2 & 0 \end{array} \\ x + 2 & x < -1 \rightarrow \begin{array}{c cc} x & 0 & -1 \\ y & 2 & 1 \end{array} \end{cases}$  $IR = [1, +\infty)$	5
$f(x) = \begin{cases} x^2 + 2x + 2 & x \leq 0 \rightarrow IR = [-1, +\infty) \\ [x] - x & x > 0 \end{cases}$ $R = \{-\}$ $R_f = [-1, +\infty)$ 	1, 2, 3, 4
$y = a+1 - \sqrt{x+2} \leadsto D_f = [b, +\infty) \leadsto R_y = (-\infty, 0] \Rightarrow a=4$ $x+2 \geq 0 \leadsto x \geq -2 \leadsto b = -2, 0 \leadsto \sqrt{\square} = - \leftarrow b = -2$ $\Rightarrow a \times b = -4$ $\frac{1}{x} \rightarrow -\frac{1}{x}$	5
$f(x) = x\sqrt{x+1} + 2\sqrt{1-x} \rightarrow f(x) + g(x) = x\sqrt{x+1} + 2\sqrt{1-x} \rightarrow g(x) = \sqrt{x+1} - \sqrt{1-x}$ $y = \frac{f(x)}{g(x)} = \frac{x\sqrt{x+1} + 2\sqrt{1-x}}{\sqrt{x+1} - \sqrt{1-x}}$ $\rightarrow \frac{1}{y} f(x) = \sqrt{x+1} - \sqrt{1-x} = \frac{1}{y} [x\sqrt{x+1} + 2\sqrt{1-x}] - \sqrt{x+1} + \sqrt{1-x}$ $y = \sqrt{x+1} + 2\sqrt{1-x} - \sqrt{x+1} \rightarrow -1 \leq x \leq 1 \rightarrow x=1 \leadsto y=$ $R = [-1, \sqrt{2}]$ $x=1 \leadsto y=1$ $x=-1 \leadsto y=1$	1, 2, 3, 4