

14, 20

در حد مادی

سوال 1
1, 70

$R_0 = (-1, 0), (0, 2), (1, 0)$
 $f = \{(-1, 0), (0, 2), (1, 0)\}$
 $g = \{(-1, 1), (0, 4), (1, 2)\} \rightarrow g = \{(-1, 2), (0, 4), (1, 2)\}$
 $g - f = \{(-1, 2), (0, 4), (1, 2)\} \rightarrow R = \{2, 5, 4\}$

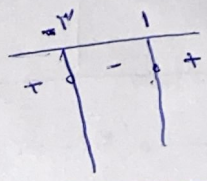
$R_f = (R \times R) - I = A \rightarrow [0, +\infty)$
 $R_g = (\frac{1}{2} \times R) + R = C \rightarrow (-\infty, 4]$

$R_f \cup R_g = (-\infty, 4] \cup [0, +\infty) = R - \{5\}$
 سوال 2

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

$\sqrt{b-a} = \sqrt{\frac{1-(-3)}{2}} = 2$

$(a, b) = (-3, 1)$



سوال 3

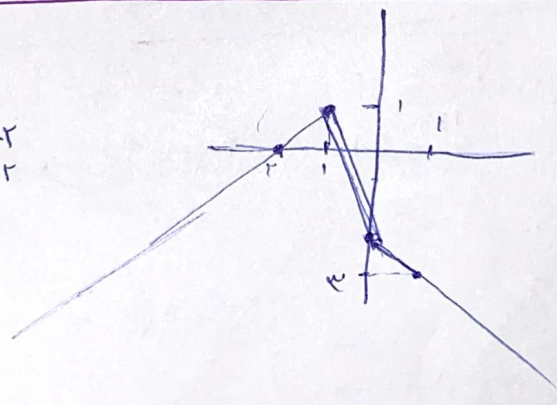
$y = |x-1| + |x-2| + |x-3|$

$x < 1$	$1 \leq x < 2$	$2 \leq x < 3$	$x \geq 3$
$-x+1-x-2-x-3 = -3x-4$	$x-1-x-2-x-3 = -x-6$	$x-1-x-2+x-3 = -2$	$x-1+x-2+x-3 = x-6$
$-3x-4$	$-x-6$	-2	$x-6$
$y(1) = 2$	$y(2) = 2$	$y(3) = 2$	$y(4) = 2$

$y = 2$ (مقدار ثابت)
 سوال 4

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

$x < -1$	$-1 \leq x < 0$	$x \geq 0$
$-x+x+2 = 2$	$-x-2x-2 = -3x-2$	$x-2x-2 = -x-2$
2	$-3x-2$	$-x-2$
$y = 2$	$y = -3x-2$	$y = -x-2$



$R = (-\infty, 1]$
 سوال 5

$\frac{x^2 + 8x + 16}{x+1} \rightarrow \frac{(x+4)(x+4)}{(x+1)}$

$x^2 + 8x + 16 = (x+4)^2$

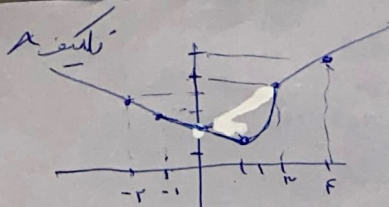
$2x^2 + (2-y)x + 11-y = 0 \rightarrow x = \frac{y-2 \pm \sqrt{(2-y)^2 - 4(11-y)}}{2}$

$ay \rightarrow 1 > 0$

$5x \rightarrow m < k \rightarrow$

مضربان برابر باشند

$m = 1, 2, 4$

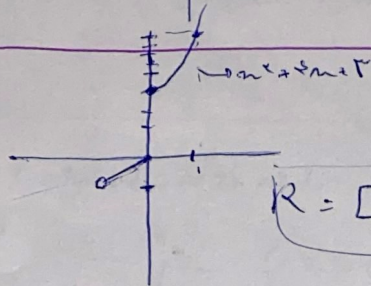


$$R = [1, +\infty)$$

در سامانه

سوال (5)

(5)



$$[x_2] - 2m \rightarrow [13] + \dots$$

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

سوال (6)

(6)

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

سوال (9)

$$a+1 \in (-1, 0) \rightarrow a \in (-2, -1)$$

$$b \in (-1, 0) \rightarrow b \in (-1, 0)$$

(5)

$$x = -\frac{1}{2} \rightarrow y = \Delta \rightarrow a = a + \sqrt{x^2 - x + 1} \rightarrow a = \dots \rightarrow a \cdot b = \dots$$

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

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

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

سوال (10)

(5)

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

↓

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

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

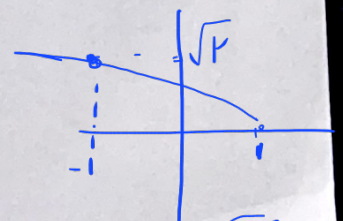
$$\frac{f(m)}{4} - \frac{g(m)}{4} = \frac{\sqrt{1-m}}{2} + \frac{2\sqrt{1-m}}{4} - \sqrt{1+m} - \sqrt{1-m} = -\frac{\sqrt{1+m}}{2}$$

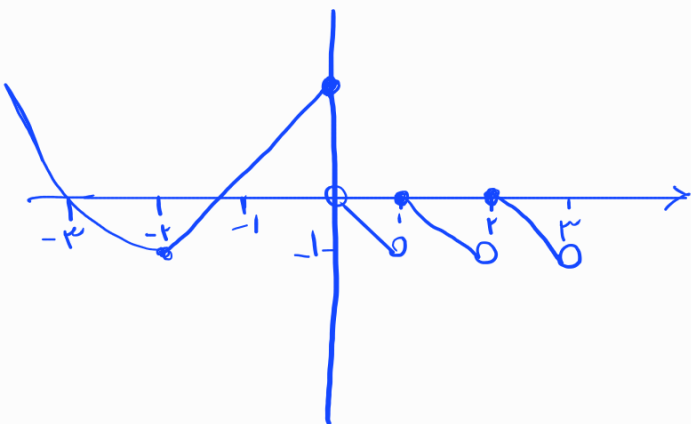
$$f(m) + g(m) = \sqrt{x+2} \sqrt{1-m} \rightarrow \dots$$

$$g(\sqrt{1-2x} + \sqrt{1+x}) \rightarrow \dots$$

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

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





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

(1)