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نام و نام خانوادگی عبادی پاسنامه تشریحی تکلیف شماره ۹ کلاس از رشته ریاضیات

$f(x) = \sqrt{1-x^2}$ $g\{(-1,1)(0,0)(1,1)\}$ $D_f = [-1,1]$ $D_g = \{(-1,1)(0,0)(1,1)\}$

$D_f \cap D_g = \{(-1,1)(0,0)(1,1)\}$ $x=0 \rightarrow f_g = (0,1)$ $f_g = (0,1)$ (۲)

$f_g - f_g = \{(0,0)\}$
 $f_g - f_g = \{(0,0)(1,1)(-1,1)\}$ $x=1 \rightarrow f_g = (1,1)$ $f_g = (1,1)$ $f_g - f_g = \{(1,1)\}$
 $x=-1 \rightarrow f_g = (-1,1)$ $f_g = (-1,1)$ $f_g - f_g = \{(-1,1)\}$
 $a + f + f = 11$

$f(x) = 2x-1$ $D_f = [1, +\infty)$ $\rightarrow R_f = [0, +\infty)$

$2x-1 \xrightarrow{x=1} = 1$

$g(x) = \frac{1}{x}x+1$ $D_g = (-\infty, 1]$ $x=1 \rightarrow g(x) = 1 \rightarrow R_g = (-\infty, 1]$ (۲)

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

$-\frac{x^2}{x} + x + 3 > \frac{x}{x} \xrightarrow{x^2} -x^2 + 1x + 9 > 1 \xrightarrow{x(1)} x^2 - 2x - 3 < 0$

$(x-3)(x+1) < 0 \rightarrow x \in (-1, 3) \rightarrow a = -1$
 $b = 3$ (۲)

$\sqrt{b-a} = \sqrt{3-(-1)} = \sqrt{4} = 2$

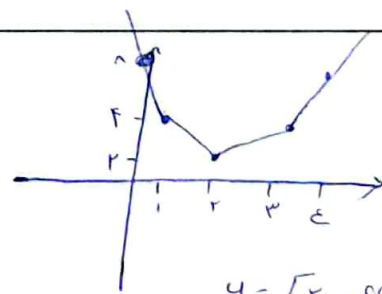
$y = |x-1| + |x-2| + |2x-4|$

$x=1 \rightarrow y = 1+1+0 = 2$

$x=2 \rightarrow y = 1+0+0 = 1$

$x=2 \rightarrow y = 1+1+0 = 2$

$x=0 \rightarrow y = 1+2+4 = 7$ $x=4 \rightarrow y = 3+1+0 = 4$

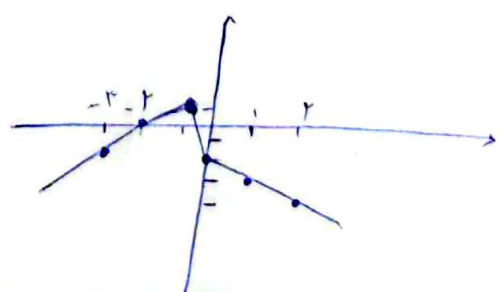


$y = [2, +\infty)$

مقدار ۲

$y = |x| - 2|x+1|$
 $x=0 \rightarrow y = 0 - 2(1) = -2$
 $x=-1 \rightarrow y = 1 - 2(0) = 1$

$-x+1x+1 = 1$
 $x+1 \mid -x^2-2x-1 \mid x-2x-1 = -x-1$



$R = (-\infty, 1]$

$$y = \frac{x^2 + ax + m}{x+1} \rightarrow xy + y - x^2 - ax - m = 0 \rightarrow -x^2 + x(y-a) - m + y = 0$$

$$\Delta = (a-y)^2 - 4(m-y) = y^2 - 4y + 4 + 4 - 4m = (y-2)^2 + 4 - 4m \rightarrow \Delta \geq 0$$

$$(y-2)^2 \geq 4m-4 \quad m \leq 1 \rightarrow 4m-4 \leq 0 \text{ و } (y-2)^2 \geq 0 \rightarrow \Delta \geq 0$$

$$m = 1 \rightarrow \frac{x^2 + ax + 1}{x+1} = \frac{(x+1)(x+c)}{x+1} - x + c \rightarrow R = \{c\}$$

$$m > 1 \rightarrow |y-2| \geq 2\sqrt{m-1} \quad R = (2-2\sqrt{m-1}, 2+2\sqrt{m-1})$$

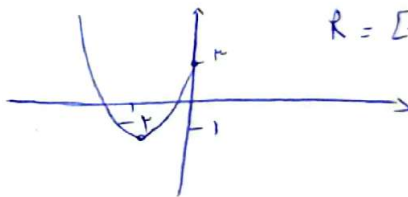
$$f(x) = \begin{cases} x+2 & x \geq 2 \rightarrow R = [2, +\infty) \\ x^2 + x + 2 & 0 \leq x < 2 \rightarrow R = [1, 2) \\ |x| + 2 & x < 0 \rightarrow R = (2, +\infty) \end{cases}$$

$$x^2 + x + 2 \rightarrow x_{\min} = -\frac{1}{2} = -1, y_{\min} = 1 \quad x=2 \rightarrow y=2 \quad R = [1, 2)$$

$$[2, +\infty) \cup [1, 2) \cup (2, +\infty) = [1, +\infty)$$

$$f(x) = \begin{cases} x^2 + x + 2 & x \leq 0 \rightarrow [-2, +\infty) \\ [2x] - 2x & x > 0 \rightarrow -1 < [2x] - 2x \leq 0 \end{cases} \quad [-2, +\infty) \cup [-1, 0] = [-2, +\infty)$$

$$x^2 + x + 2 \rightarrow x_{\min} = -\frac{1}{2} = -1, y_{\min} = -1$$



$$R = [-2, +\infty)$$

$$y = a + 1 - \sqrt{2x+3} \quad 2x+3 \geq 0 \rightarrow x \geq -\frac{3}{2} \quad D = [-\frac{3}{2}, +\infty) \rightarrow b = -\frac{3}{2}$$

$$x = -\frac{3}{2} \rightarrow \sqrt{2x+3} = 0 \rightarrow y = a + 1 = \infty \rightarrow a = \infty \quad R = (-\infty, \infty)$$

$$ab = -\frac{3}{2} \times \infty = -4$$

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

$$D_f = (-\infty, 1] \cup [1, +\infty) = [1, 1] = D_g$$

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

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

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

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

$$\rightarrow x \in [-1, 1] \quad \sqrt{1-x} \quad x = -1 \rightarrow \sqrt{1-x} = \sqrt{2} \quad R = [0, \sqrt{2}]$$