

نام و نام خانوادگی پاسبان پاسنامه تشریحی تکلیف شماره ۲ ... کلاس دوازدهم - مسیحی

$$f(x) = (x+1)^2 + (3x-1)^2 + mx^2 + nx + mn = x^2 + 1 + 2x + 9x^2 + 1 - 2x + mx^2 + nx + mn = x^2(10+m) + x(-2+n) + 2+mn$$

تابع ثابت $\Rightarrow m = -10, n = 4 \Rightarrow f(x) = -3x$

$$g(x) = f(f, m), (n, p+1), (p+2, -1), (-9, p+k) \Rightarrow g(x) = f(4, -10), (4, p+1), (p+2, -1), (-9, p+k)$$

$$p+1 = -10 \Rightarrow p = -11 \quad p+k = -1 \Rightarrow k = 10 \Rightarrow k+m+n+p = 10 - 10 + 4 - 11 = -7$$

$$f(x) = \frac{2x^2+1}{x-2[-x]}$$

$$x-2[-x] \neq 0 \Rightarrow [-x] \neq 2 \Rightarrow x \neq -2$$

$$\Rightarrow D_f(x) = R - \{-2\}$$

$$y = \sqrt{\frac{x-2}{x^2-2x-8}} \geq 0$$

$$y \mid -\frac{2}{8} + \frac{2}{8} + +$$

$$D_y = (-2, +\infty) - \{2\}$$

$$f(x) = \frac{\sqrt{|x-2|-x^2}}{|x|-1}$$

$$|x|-1 \neq 0 \Rightarrow x \neq \pm 1$$

$$|x-2|-x^2 \geq 0 \Rightarrow x-2 \geq x^2 \Rightarrow x^2-x+2 \leq 0$$

$$\Delta < 0 \Rightarrow \text{همیشه مثبت}$$

$$x-2 \leq -x^2 \Rightarrow x^2+x-2 \leq 0$$

$$\Rightarrow (x+2)(x-1) \leq 0 \Rightarrow -2 \leq x \leq 1$$

$$*n** = D_f(x) = [-2, 1] - \{-1\}$$

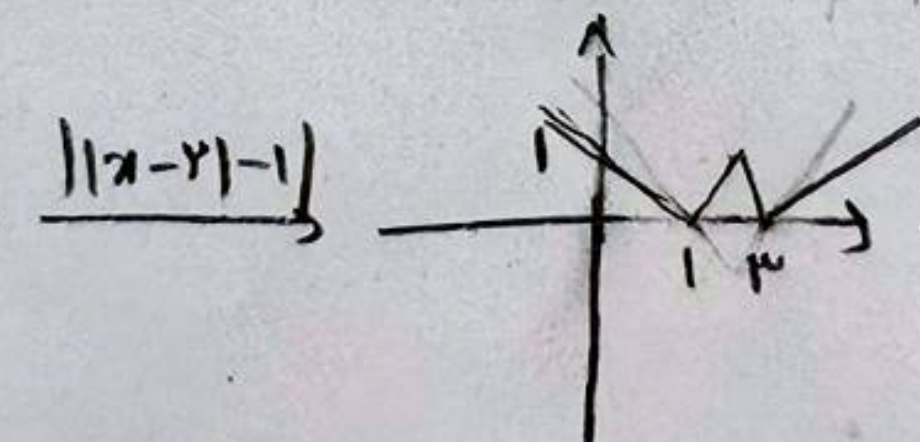
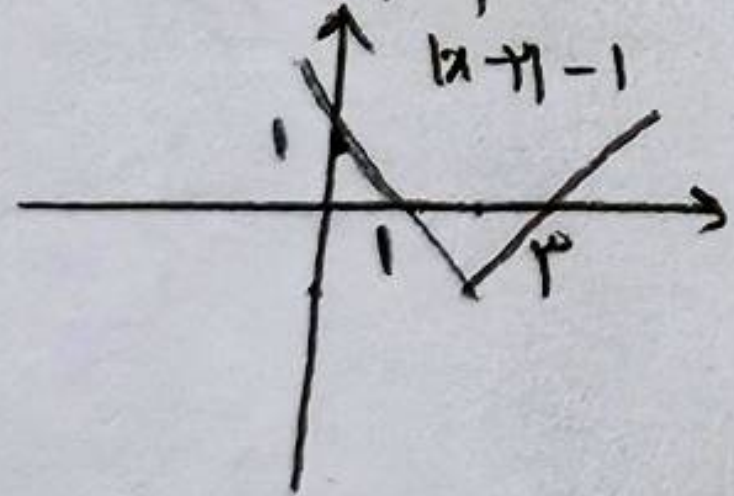
$$f(x) = \frac{\sqrt{x(x^2-1)}}{\sqrt{|x|+x}} \Rightarrow x(x^2-1) \geq 0$$

$$\frac{-1 \ 0 \ 1}{x(x^2-1) \mid -1+1-1+ \Rightarrow [-1, 0] \cup [1, +\infty)}$$

$$|x|+x > 0 \Rightarrow x > -|x| \Rightarrow R^+$$

$$*n** = [1, +\infty) = D_f(x)$$

$$y = \frac{1}{||x-2|-1|-k} \Rightarrow x \mid |x-2|-1-k \neq 0$$

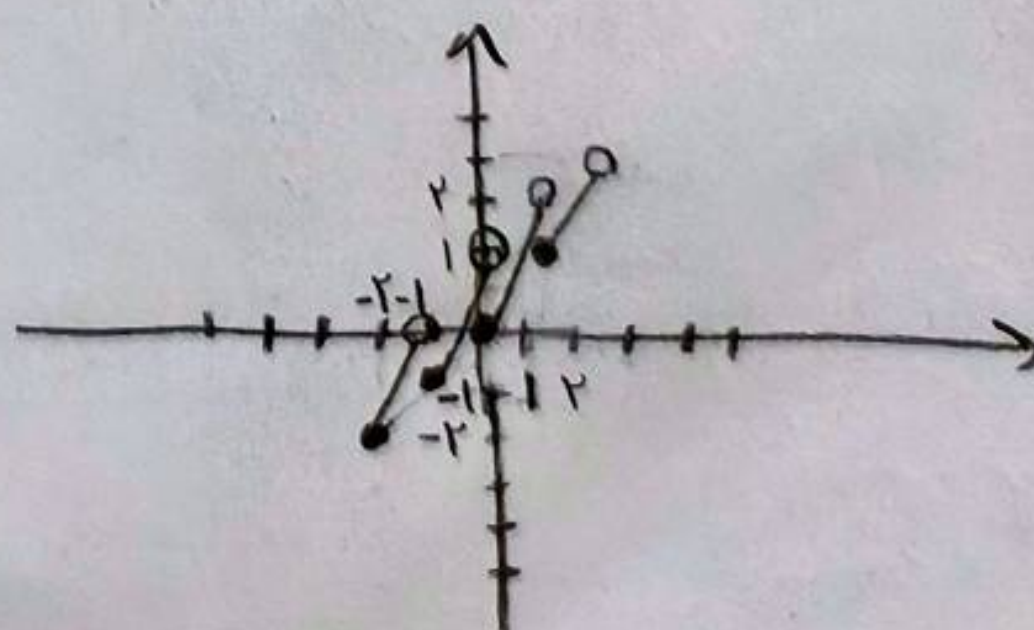


دفعه را یک واحد پایین می آوریم

$$y = \frac{1}{||x-2|-1|-1} \Rightarrow k=1$$

$$y = 2x - [x]$$

$$\begin{aligned} -2 \leq x < -1 &\Rightarrow y = 2x + 2 \\ -1 \leq x < 0 &\Rightarrow y = 2x + 1 \\ 0 \leq x < 1 &\Rightarrow y = 2x \\ 1 \leq x < 2 &\Rightarrow y = 2x - 1 \end{aligned}$$



$$f(x) = \frac{x^2 - (a+b)x + ab}{x+a} + b \stackrel{y=x}{=} \frac{(x-b)(x-a)}{x+a} + b \Rightarrow a = -3, b = 1 \text{ و } a = -1, b = 3$$

$$a-b = -1-3 = -4 \text{ و } -3-1 = -4 \Rightarrow a-b = \{-4\}$$

$$g(x) = f(x) \stackrel{x=0}{\Rightarrow} x+c = \frac{x^2 + 2x^2 - x - 1}{x^2 - 1} \Rightarrow c = 2$$

$$\text{If } x=b \Rightarrow x+c = \frac{ax+2}{x+b} \stackrel{x=1}{\Rightarrow} 2 = \frac{a+2}{1+b} \Rightarrow 2+2b = a+2 \Rightarrow a = 2b$$

$$\text{If } x=-1 \Rightarrow 1 = \frac{2-a}{b-1} \Rightarrow b-1 = 2-a \Rightarrow b-1 = 2-2b-1 \Rightarrow b = \frac{1}{3} \Rightarrow a = \frac{2}{3}$$

$$b+c = \frac{1}{3} + 2 = \frac{7}{3}$$

$$D_f \cdot g = D_f \cap D_g = \emptyset \Rightarrow f(x) = \sqrt{x-2a+2b-2} - \sqrt{2a-\frac{b}{2}-k} = 2-2+1 = 1$$

$$g(x) = \sqrt{b-2x+2k} \Rightarrow b-2x \geq 0 \Rightarrow x \leq \frac{b}{2} \Rightarrow \frac{b}{2} = \frac{2a}{2} = 1 \Rightarrow b = 2, a = 1$$

$$f(x) = \sqrt{x-2a} + k - 1 \Rightarrow 2a-2a \geq 0 \Rightarrow x \geq \frac{2a}{2}$$

$$f \cdot g \stackrel{y=1}{\Rightarrow} \sqrt{x-2} + 2k - 2 - \sqrt{2a-\frac{b}{2}-k} \Rightarrow k = 2k - 2 \Rightarrow k = -1$$

$$D_f \cdot g = D_f \cap D_g \quad g(x) = \sqrt{2x+2} \Rightarrow 2x+2 \geq 0 \Rightarrow x \geq -1 = D_g \Rightarrow D_f = x \in \mathbb{R} \Rightarrow f(x) = \sqrt{m-x} + n \Rightarrow m = \sqrt{}$$

$$f(2) - g(2) = 4\sqrt{2} \Rightarrow f(2) = 4\sqrt{2} \Rightarrow \sqrt{m-2} + n = 4\sqrt{2} \Rightarrow n = 4\sqrt{2} - 2$$

$$m+n = \sqrt{2} + 4\sqrt{2} - 2 = 5\sqrt{2} - 2$$

$$y = (-1)^x (x - [x]) = \frac{1}{2} \Rightarrow x - [x] = \frac{1}{2}$$

$$-1 \leq x < 0 \Rightarrow y = x+1$$

$$0 \leq x < 1 \Rightarrow y = x$$

$$1 \leq x < 2 \Rightarrow y = x-1$$

