

$$f(x) = x^2 + 2x + 1 + 9x^2 - 4x + 1 + mx^2 + nx + mn = 10x^2 + 2x + 2 + mx^2 + nx + mn$$

$$x > m-1 \quad m < f \quad \text{or}$$

$$g(x) = \{ (x, m), (x, p+1), (p+2, -1), (-9, p+k) \}$$

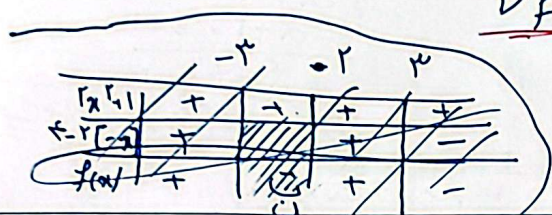
$$p+1 = -1 \quad p = -2$$

$$-11 + k = -1 \Rightarrow k = 10 \Rightarrow m+n+p+k = -1 + (-2) - 11 + 10 = -4$$

$$x^2 - 2x^2 - 1 = -x^2 - 1$$

$$x^2 - 2x^2 - 1 = -x^2 - 1$$

$$D_f = (-2, 2) \cup (2, +\infty)$$



$$D_f = \mathbb{R} - (-2, -1] \cup (2, +\infty)$$

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

$$2 \neq [-x] \Rightarrow -x \notin [2, 3] \Rightarrow D_f = (-\infty, 2) \cup (3, +\infty)$$

$$-1 \quad 0 \quad 1$$

$$+ \quad - \quad +$$

$$x \neq 0$$

$$\Rightarrow D_f = [1, +\infty)$$

$$x(x^2 - 1) > 0$$

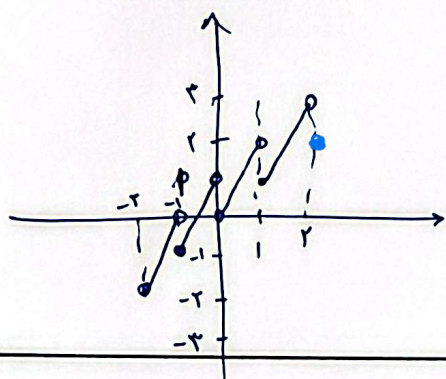
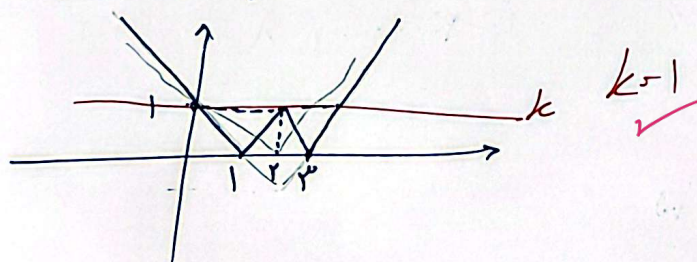
$$x \neq \pm 1$$

$$|x| - 1 \neq 0, \quad |x - 2| - x^2 \geq 0$$

$$x > 2 \quad -x^2 + x - 2 \geq 0 \Rightarrow x^2 - x + 2 \leq 0 \quad \text{no solution}$$

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

$$||x - 2| - 1| = k$$



$$-2 \leq x < -1 \Rightarrow [x] = -2 \rightarrow 2x + 2$$

$$-1 \leq x < 0 \Rightarrow [x] = -1 \rightarrow 2x + 1$$

$$0 \leq x < 1 \Rightarrow [x] = 0 \rightarrow 2x$$

$$1 \leq x < 2 \Rightarrow [x] = 1 \rightarrow 2x - 1$$

ضابطه ها را حاصل بنویس

$$\frac{(x-1)(x-r)}{x+a} + b = x \Rightarrow$$

$$\begin{cases} a=-1 & x-r+b=x \Rightarrow b=r \\ a+b=r-1 & \checkmark \end{cases}$$

$$\begin{cases} a=-r & x-1+b=x \Rightarrow b=1 \\ a+b=r-1 & \checkmark \end{cases}$$

$$-2 = a - b$$

$$\textcircled{1}, \textcircled{2} = -1 \times$$

باید جمع کنی!

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

$$\frac{ax+r}{x+b} \quad x = \pm 1$$

$$x \neq \pm 1 \Rightarrow \frac{a+r}{1+b} = r \Rightarrow a+r = r+rb$$

$$1 = \frac{-a+r}{b-1} \Rightarrow b-1 = -a+r$$

$$\begin{cases} a+r = r+rb \\ -a+r = b-1 \end{cases}$$

$$\frac{0}{r} = b+c$$

$$f = \frac{r+rb}{b-1} \quad 1+c=r$$

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~~Handwritten scribbles and crossed-out equations.~~

تغییر متغیر

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

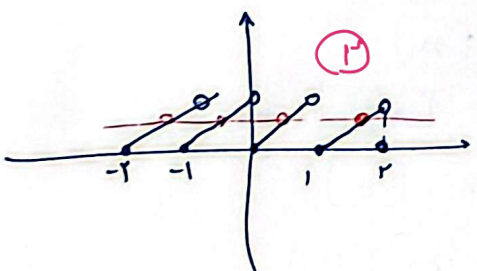
$$D_g: m \geq x \quad D_f: x \geq -1 \Rightarrow \sqrt{v-x} + n - \sqrt{1} = 4\sqrt{x}$$

$$m = \sqrt{x} \checkmark$$

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$$\Rightarrow r+n - 2\sqrt{r} = 4\sqrt{r}$$

$$n = 1\sqrt{r} - r \checkmark \quad m+n = 1\sqrt{r} + 0 \quad m+n = 1\sqrt{r} + a$$



۴ جواب

مقدار بازه بندی آخر نویسه

$$\begin{cases} 0 \leq x < 1 \rightarrow x \\ 1 \leq x < 2 \rightarrow x-1 \\ 2 \leq x < 3 \rightarrow x-2 \\ -1 \leq x < 0 \rightarrow x+1 \\ -2 \leq x < -1 \rightarrow x+2 \end{cases}$$

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