



آینا کریم زاده - داور هم (ضرب) - تطبیق

$$f(x) = \begin{cases} x-1 & x \geq 0 \\ x+1 & x < 0 \end{cases}$$

$$y \begin{cases} x \geq 0 \rightarrow \sqrt{x-1} - x+1 \rightarrow \sqrt{x} \geq 0 \quad \checkmark \\ x < 0 \rightarrow \sqrt{x+1} - x+1 \rightarrow \sqrt{x+1} \geq 0 \rightarrow x \geq -\frac{1}{4} \end{cases} \quad D_y = [-\frac{1}{4}, +\infty)$$

$$y = \frac{1(1+x)^{\frac{1}{2}}}{(1+x)^{\frac{1}{2}}} \rightarrow \frac{-\frac{1}{2}}{-\frac{1}{2} + 1} \rightarrow D_y = [\frac{1}{2}, +\infty) \quad (\text{سوال ۳})$$

$$x+C \rightarrow C=-2$$

$$x=1 \rightarrow x-2=-1$$

(سوال ۳)

$$\begin{array}{r|l} x^2+2x-2 & x-1 \\ -(x^2-x) & \\ \hline 3x-2 & \\ 3x-2 & \\ \hline 0 & \end{array}$$

$$\frac{a+2}{1+b} = -1 \rightarrow a+b = -2$$

$$x=-1 \rightarrow x-2=-3$$

$$\frac{-a+2}{-1+b} = -3 \rightarrow -a+2 = 3-3b \rightarrow 3b-a=1$$

$$\rightarrow \begin{cases} a+b = -2 \\ 3b-a = 1 \end{cases} \rightarrow 4b = -1 \rightarrow b = -\frac{1}{4} \quad b+c = -\frac{9}{4}$$

$$\frac{(x-1)(x+1)}{x^2+ax+b} = \frac{x+1}{x-1} \quad \text{if } f=g \rightarrow D_f = D_g \quad (\text{۴})$$

$$\begin{array}{c} \underline{\underline{x^2+ax+b}} \\ \downarrow \\ (x-1)^2 \end{array} \quad \begin{array}{c} \underline{\underline{x-1}} \\ \downarrow \\ x-1 \end{array}$$

$$C=-1 \quad a=-2 \rightarrow a+b+C = -2$$

$$b=1$$

$$\begin{aligned} f(x) &= (x+1-2)(x+1-1) = (x-2)(x) \\ f(1-x) &= (1-x-2)(1-x-1) = (x+2)(-x) \end{aligned} \quad \left. \begin{aligned} & \\ & \end{aligned} \right\} \xrightarrow{+} x((x-2) - (x+2)) \quad (6)$$

$$\rightarrow x(-4x)$$

$$g(x) = -4x^2$$

$$f(1-x) = \begin{cases} \sqrt[3]{x} + 2 & x \leq 0 \\ \sqrt[3]{x} & x > 0 \end{cases} \quad \begin{aligned} 1-2x=2 &\rightarrow -2x=2 \rightarrow x=-1 \\ 1-2x=-1 &\rightarrow x=1 \end{aligned} \quad (4)$$

$$\begin{aligned} f(2) &= \sqrt[3]{-1} + 2 = 1 \\ f(-1) &= \sqrt[3]{1} = 1 \end{aligned} \quad \left. \begin{aligned} & \\ & \end{aligned} \right\} \xrightarrow{+} (2)$$

$$x + \sqrt{x} = 4 \Rightarrow x + \sqrt{x} - 4 \Rightarrow (\sqrt{x} + 2)(\sqrt{x} - 2) = 0 \Rightarrow x = 4$$

$$f(4) = 4^2 + 2 \times 4 = 16 + 8 = 24$$

$$\begin{aligned} f(x-1) &= (x-1)^2 + (x-1) \\ f(-(x-1)) &= -(x-1)^2 - (x-1) \end{aligned} \quad \left. \begin{aligned} & \\ & \end{aligned} \right\} \xrightarrow{+} 0$$

$$f(1) = \sqrt{4-2} + k - 1 \Rightarrow f - g(1) = \sqrt{4-2} + k - 1 - \sqrt{4-2} - k = 0 \quad (9)$$

$$g(1) = \sqrt{4-2} + k$$

$$f \geq 1 \Rightarrow \frac{f}{2} \geq a$$

$$b \geq 2$$

$$\boxed{a = \frac{f}{2}, b = 2} = k$$

$$\text{جواب} \rightarrow (2)$$

$$2a - \frac{b}{2} - k = 2 - \frac{2}{2} - k = 2 - 1 - k = 1 - k$$

$$2k - 2 - k = k \Rightarrow -2 = k \Rightarrow \underline{k = -2}$$

دوشنبه

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$$g(x) = \sqrt{2x+2} \quad Dg = [-1, +\infty)$$

$$f(x) = \sqrt{m-x} + n \quad Df = (-\infty, m]$$

$$D_{fg} = [-1, 7]$$

$$\rightarrow m = 7$$

$$f \circ g(x) = \sqrt{v-x} + n - \sqrt{1} = 2+n - 2\sqrt{2} = 4\sqrt{2} \rightarrow n = 8\sqrt{2} - 2$$

$$m+n = 8\sqrt{2} - 2 + 7 = 8\sqrt{2} + 5$$

آینه‌ی زمانه