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طاهره محمدیان عمار
یازدهم پسر A - تالیف

وقت!

$$f(x) = \left(\frac{1}{x}\right)^{x-2} = x^{2-x} \quad y = \sqrt{x^2 f(x+1)} \rightarrow \sqrt{x^2 (x-1)^{2-x}} = \sqrt{x^2 (x-1)^{1-x}} \quad (1.5)$$

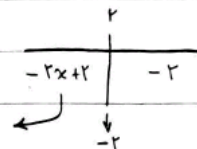
$$x^2 \times x^{1-x} \geq 0 \rightarrow x^{1-x} \rightarrow +0.5 \Rightarrow 0 \text{ شمارنده} \rightarrow \frac{0}{-} \Rightarrow Dy = [0, +\infty)$$

$$x^{1-x} - 1 = 0 \rightarrow x = 1 \text{ ریشه دوم} \quad \frac{0}{-1+1} = \frac{0}{0}$$

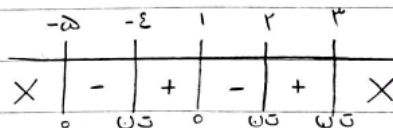
$$f(x) = \sqrt{x+|x+2|} \rightarrow f(-x) = \sqrt{-x+|2-x|} \rightarrow |2-x|-x \geq 0 \quad (2)$$

$$Dy = (-\infty, 1] \quad \checkmark$$

$$-2x+2 \geq 0 \Rightarrow x \leq 1$$



$$y = \sqrt{\frac{x-1}{f(x)}} \rightarrow \frac{x-1}{f(x)} \geq 0$$



$$Dy = (-1, 1] \cup (2, 3) \quad \checkmark$$

$$y_1 = \frac{1}{9x^2 - \sqrt{x^2 - 4x - 3}} \rightarrow \frac{1}{(3x^2 - 1)^2 - x^2 - 4x - 3} \rightarrow \frac{1}{(3x^2 - 1)^2 - (x^2 + 4x + 3)}$$

$$9x^2 - 1 - 4x - 3 \neq 0 \rightarrow (3x^2 - 1 + x + 2)(3x^2 - x - 3) \rightarrow Dy_1 = R_1 - \{\text{ریشه عبارت}\} \quad I$$

$$y_2 = \frac{1}{3x^2 + ax + b} \rightarrow Dy_2 = R_1 - \{\text{ریشه عبارت}\} \quad I, II \Rightarrow 3x^2 - x - 3 = 3x^2 + ax + b \Rightarrow a = -1, b = -3$$

$$f(x) = x^2 + x \quad \sqrt{f(x) - f\left(\frac{1}{x}\right)} \rightarrow x^2 + x - \frac{4x}{x^2} - \frac{1}{x} \geq 0$$

$$\left(x^2 - \frac{4x}{x^2}\right)\left(x - \frac{1}{x}\right) \geq 0 \rightarrow \left(x - \frac{1}{x}\right)\left(x^2 + 5 - \frac{14}{x^2}\right) \geq 0 \rightarrow \left(x - \frac{1}{x}\right)\left(x^2 + 5x^2 - 14\right) \geq 0$$

$$\frac{x^2 - 4}{x^2} \quad \frac{-2 \quad 0 \quad 2}{-1 \quad + \quad -1 \quad +}$$

$$Dy = R_1 - (-1, 1)$$

$$[-\infty, -2) \cup (2, +\infty)$$

در وقتی که خواهی مواردی مثل $x = \frac{4}{x}$ را تعیین علامت کنی حتماً خارج مشترک بگیر بعد ریشه های خارج و مقبوع را بنویس و جدول تعیین علامت

Parsian

$$f(x^r + x) = rx^r - 1 \rightarrow f(r) \rightarrow x^r + x = r \rightarrow x=1, = r-1=1 \quad (2) -9$$

$$\rightarrow f(1) \rightarrow x^r + x = 1 \rightarrow x=r, = r-1=r$$

$$r+1=8 \quad \checkmark$$

$$f(x) = x^r - 9x^r + 12x \xrightarrow{\pm 8} x^r - 9x^r + 12x + 8 = (x-r)^r \rightarrow (x-r)^r + 8 \quad (2) -7$$

$$g(x) = x^r + 9x^r + rvx \xrightarrow{\pm rv} x^r + 9x^r + rvx + rv = (x+r)^r \rightarrow (x+r)^r - rv$$

$$g(\sqrt[r]{v}-r) \rightarrow (\sqrt[r]{v}-r)^r - rv = -rv$$

$$f(\sqrt[r]{r}+r) \rightarrow (\sqrt[r]{r}+r)^r + 8 = 1 \rightarrow \frac{-r}{1} = -r \quad \checkmark$$

$$f(x) = \sqrt{x+8}\sqrt{x-8} \rightarrow \sqrt{(\sqrt{x-8}+2)^2} = |\sqrt{x-8}+2| = \sqrt{x-8}+2 \quad (2) -8$$

$$g(x) = \sqrt{x-8}\sqrt{x+8} \rightarrow \sqrt{(\sqrt{x-8}-2)^2} = |\sqrt{x-8}-2| \xrightarrow{x \geq 8} \sqrt{x-8}-2$$

$$\xrightarrow{4 \leq x < 8} -\sqrt{x-8}+2$$

$$x \geq 8 \rightarrow 0 + 2\sqrt{x-8} \rightarrow -\frac{1}{x} \quad \checkmark$$

$$4 \leq x < 8 \rightarrow 4 + 0 \rightarrow -1$$

توان حالت اصلاح جواب نمیدی چون C نامعلومه

$$Dg = \{r, 1, r, 0\}, \rightarrow Df \Rightarrow \frac{x+r}{x^r - rx + r} \rightarrow x^r - rx + r \neq 0 \rightarrow (x-1)(x-r) \quad (2) -9$$

$$\Rightarrow Df = \mathbb{R}_+ - \{1, r\}$$

$$r, 0 \rightarrow \text{مشترک} \rightarrow f(r) = \frac{r}{-1} = -r$$

$$\rightarrow f(0) = \frac{r}{r} \rightarrow g_f = \{(r, -\frac{1}{r}), (0, r)\} \quad \checkmark$$

$$f(rx) \rightarrow \{(\frac{1}{r}, r), (\frac{r}{r}, -1), (r, r), (-\frac{1}{r}, r)\} \quad \checkmark \quad (2) -10$$

$$f(x^r) \rightarrow \{(1, r), (-1, r), (\sqrt{r}, -1), (-\sqrt{r}, -1), (r, r), (-r, r)\} \quad \checkmark$$

$$rg^r(x)+1 \rightarrow \{(-r, 19), (1, r), (r, 9), (-1, 1)\} \quad \checkmark$$

$$\frac{rf}{g} \rightarrow \{(1, -8), (r, -1), (-1, \cancel{0})\} \quad \checkmark$$

Parsian