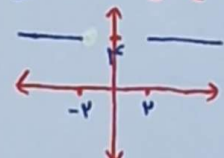


۱۹،۷۵

نام و نام خانوادگی نیایش افکار پاسخنامه تشریحی تکلیف شماره ۸... کلاس ... دوم دختر

الف $D_f = \mathbb{R}^+ - \{0\}$ $D_g = \mathbb{R}$ $D_g \neq D_f$ ✓ توابع برابر نیستند.	ب $f(x) = \frac{x^2 + 4x^2 + x + 4}{x^2 + 5x + 7} = \frac{x^2 + 5x + 7}{x^2 + 5x + 7} = 1$ $f(x) = g(x)$ ✓ توابع برابر هستند.	ج $\sin x \neq \frac{1}{x}$ همواره برقرار است $D_f = \mathbb{R}$ $D_g = \mathbb{R}$ $f(x) = \frac{1 \sin x (1 \sin x - 1)}{1 \sin x - 1}$ $f(x) = g(x) = \sin x$ ✓ توابع برابر هستند.	د $D_f = \mathbb{R} - \{0\}$ $D_g = \mathbb{R} - \{0\}$ (۵) $f(x) = g(x)$ ✓ توابع برابر هستند.	۱
الف $D_f = \mathbb{R}$ $D_g = \mathbb{R}$ $f(x) = g(x) = 0$ توابع برابر هستند. فقط داشتن طاق نیست	ب $D_f = \mathbb{R} - [0, \frac{1}{2})$ $D_g = \mathbb{R} - [0, 1)$ $D_f \neq D_g$ ✓ توابع برابر نیستند.	ج $D_f = \emptyset$ $D_g = \mathbb{R}^-$ $D_f \neq D_g$ ✓ توابع برابر نیستند.	د $D_f = \mathbb{R}$ (۱،۷۵) $D_g = \mathbb{R}$ $f(x) = \frac{x(x+1)(x+1)}{(x+1)}$ $f(x) = x^2 + x$ $f(x) = g(x)$ ✓ توابع برابر هستند.	۲
$f^2(x) - g^2(x) = (f(x) - g(x))(f(x) + g(x)) = (x^2 + 1 - x)(x^2 + 1 + x) = (x^2 + 1)^2 - x^2 = x^4 + 2x^2 + 1 - x^2 = x^4 + x^2 + 1$ $f(x) = \frac{2x^2 + 1}{x^2 + 1} = x^2 + 1$ $g(x) = \frac{2x^2}{x^2 + 1} = x^2$				۳
$f \times g = (x - \sqrt{x^2 - 4})(x + \sqrt{x^2 - 4}) = x^2 - (x^2 - 4) = x^2 - x^2 + 4 = 4$ $\begin{cases} x^2 - 4 \geq 0 \rightarrow x^2 \geq 4 \rightarrow x \geq 2 \vee x \leq -2 \\ x^2 - 4 \geq 0 \rightarrow x^2 \geq 4 \rightarrow x \geq 2 \vee x \leq -2 \end{cases} \rightarrow D_f = D_g = (-\infty, -2] \cup [2, +\infty)$ 				۴
$g(x) = 2x^2 - 3x - 5 = x^2 - 3x - 10 = (x - 5)(x + 2) \rightarrow \begin{cases} x = \frac{5}{2} \\ x = -1 \end{cases} \rightarrow D_g = \mathbb{R} - \{\frac{5}{2}, -1\}$ $\frac{x - b}{2x^2 - 3x - 5} = \frac{ax + 2}{(x - \frac{5}{2})(x + 1)} = \frac{ax + 2}{x^2 - \frac{3}{2}x - \frac{5}{2}} \rightarrow \begin{cases} m = \frac{2}{2} \\ n = -\frac{5}{2} \end{cases}$ $\frac{ax + 2}{x^2 - \frac{3}{2}x - \frac{5}{2}} = \frac{x - b}{x^2 - 3x - 5} \rightarrow 2ax + 2 = x - b \rightarrow \begin{cases} a = \frac{1}{2} \\ b = -5 \end{cases}$ $am - bn = \frac{2}{2} - 10 = \frac{2}{2} - \frac{20}{2} = -\frac{18}{2} = -9$ (۲)				۵

$$\frac{bx+y}{\Lambda x+b} = C \rightarrow bx+y = \Lambda Cx + bC \rightarrow \begin{cases} C = \frac{1}{y} \\ b = \pm f \end{cases}$$

$$ad=bc \rightarrow b^y = 1y \rightarrow b = \pm f$$

$$b=f \rightarrow \Lambda x+f \neq 0 \rightarrow \Lambda x \neq -f \rightarrow x \neq -\frac{1}{y} \rightarrow a = -\frac{1}{y} \rightarrow \frac{ab}{c} = \frac{(-\frac{1}{y}) \times f}{\frac{1}{y}} = \frac{-f}{1} = -f$$

$$b=-f \rightarrow \Lambda x-f \neq 0 \rightarrow \Lambda x \neq f \rightarrow x \neq \frac{1}{y} \rightarrow a = \frac{1}{y} \rightarrow \frac{ab}{c} = \frac{(\frac{1}{y}) \times (-f)}{\frac{1}{y}} = \frac{-f}{1} = -f$$

$$yf-1 = \{(-1, w), (y, v), (w, -\Delta), (0, 0)\} \rightarrow yf = \{(-1, f), (y, \Lambda), (w, -f), (0, 1)\} \rightarrow$$

$$f = \{(-1, y), (y, f), (w, -y), (0, \frac{1}{y})\} \quad D_f = \{-1, 0, y, w\}$$

$$g = \{(y, f), (w, g), (-1, -f), (0, 0)\} \quad D_g = \{-1, y, w, \Delta\} \quad D_g \cap D_f = \{-1, y, w\}$$

$$\frac{yg}{f+g} = \left\{(-1, \frac{-\Lambda}{y-f}), (y, \frac{\Lambda}{f+f}), (w, \frac{1y}{-y+f})\right\} = \left\{(-1, \frac{-\Lambda}{-y}), (y, \frac{\Lambda}{\Lambda}), (w, \frac{1y}{f})\right\} = \{(1, f), (y, 1), (w, w)\}$$

$$R_{\frac{yg}{f+g}} = \{1, w, f\}$$

$$f = \{(y, a), (-w, wa - yb), (c, \Delta), (y, d)\} \rightarrow \{(y, -1), (-w, -w - yb), (c, \Delta), (y, -1)\}$$

$$g = \{(y, -1), (-w, 1), (a - wb, \Delta)\} \rightarrow \{(y, -1), (-w, 1), (-1 - wb, \Delta)\}$$

$$a = d = -1$$

$$-w - yb = 1$$

$$-1 - w(-y) = c$$

$$b = -y$$

$$-yb = f$$

$$-1 + g = c$$

$$c = \Delta$$

$$d + c = -1 + \Delta = f \quad b = -y$$

$$c = \Delta$$

$$D_g = D_f = \{a\}$$

$$-x^r + x - m \geq 0 \rightarrow x^r - x + m \leq 0 \rightarrow \Delta = 1 - 4m = 0 \rightarrow m = \frac{1}{4} \rightarrow x^r - x + \frac{1}{4} \leq 0 \rightarrow$$

$$(x - \frac{1}{y})^2 \leq 0 \rightarrow x = \frac{1}{y} = a$$

$$\sqrt{-x^r + x - \frac{1}{f}} \xrightarrow{x=\frac{1}{f}} \sqrt{-\frac{1}{f} + \frac{1}{f} - \frac{1}{f}} \rightarrow \sqrt{0} = 0 \rightarrow b = 0 \quad a + b = \frac{1}{y} + 0 = \frac{1}{y}$$

$$D_g = \mathbb{R} - \{c\} \rightarrow \Delta_{f, g} = yg - fb = 0 \quad b = 9$$

$$f(x) = \frac{yx+a}{x^r+gx+9} = \frac{yx+a}{(x+w)^r} \rightarrow (x+w)^r \neq 0 \rightarrow x = -w \rightarrow D_f = \mathbb{R} - \{-w\} \rightarrow D_f = D_g$$

$$c = -w$$

$$\frac{yx+a}{x^r+gx+9} = \frac{yx+a}{(x+w)^r} = \frac{y}{x+w} \quad (yx+a)(x+w)^r = y(x+w)(x+w)^r \rightarrow$$

$$yx+a = yx+g \rightarrow a = g \quad a+b+c = 9+g-w = 1y$$