

نام و نام خانوادگی کلاس شماره تکلیف شماره پاسخنامه تشریحی

الف) $x > 0$ $D_f = [0, +\infty)$ $D_g = \mathbb{R}$ $D_f \neq D_g$ برابر نیستند

ب) $D_f = \mathbb{R}$ $D_g = \mathbb{R}$ $D_f = D_g$ برابرند

ج) $\forall x \neq 1$ $\int_{\frac{1}{x}}^{\frac{1}{x+1}} \frac{1}{t} dt$ $D_f = \mathbb{R}$ $D_g = D_f$ برابرند ✓

د) $x \neq 0$ $D_f = \mathbb{R} - \{0\}$ $D_g = \mathbb{R} - \{0\}$ $D_f = D_g$ برابرند ✓

الف) $D_f = \mathbb{R}$ $D_g = \mathbb{R}$ $D_f = D_g$ برابرند

ب) $[x] \neq 0$ $0 \leq x < 1$ $\rightarrow 0 \leq x < \frac{1}{x}$ $D_f = \mathbb{R} - [0, \frac{1}{x}) \cup [\frac{1}{x}, +\infty)$

$[x] \neq 0$ $0 \leq x < 1$ $x < 0, x > 1$ $D_g = \mathbb{R} - [0, 1)$ $\rightarrow D_f \neq D_g$ برابر نیستند

ج) $x - |x| > 0$ $x > |x|$ $\rightarrow D_f = \emptyset$ $|x| - x > 0$ $|x| > x \rightarrow x < 0$ $D_g = (-\infty, 0)$

د) $D_f = \mathbb{R}$ $D_g = \mathbb{R}$ $D_f \neq D_g$ برابر نیستند

$$f(x) = x^2 + x + 1 + x^2 - x + 1 = 2x^2 + 2$$

$$f(x) = x^2 + 1$$

$$g(x) = x$$

$$f'(x) - g'(x) = 2x + 1 + 2x^2 - x^2 = x^2 + x + 1$$

$$(x - \sqrt{x^2 - 4})(x + \sqrt{x^2 - 4})$$

$$x^2 - (\sqrt{x^2 - 4})^2 = x^2 - (x^2 - 4) = 4$$

$$x^2 - 4 \geq 0 \rightarrow x^2 \geq 4$$

$$\frac{x-b}{x^2 - mx - a} = \left(\frac{ax+r}{x^2 - mx + n} \right) \times r$$

$$x^2 - mx - a = (x^2 - mx + n) \times r$$

$$x^2 - mx - a = rx^2 - mrx + nr$$

$$1a x^2 - 1a x^2 - 0a x + (-a) = rx^2 - mrx + nr$$

$$-a = nr$$

$$b = -a$$

$$m = 1, a$$

$$n = -r, 0$$

$$\frac{1}{r} \times \frac{14}{r} = \frac{14}{r^2}$$

$$0,14 - 10 = -9,90$$

$17n + b \neq 0$ $17n \neq -b$ $n \neq \frac{-b}{17}$ $a = \frac{-b}{17}$ $a = \frac{-b}{17} = \left(-\frac{1}{17}\right)$	$\frac{b+r}{1+b} = \frac{r+b+r}{14+b}$ $14b + rb + 14 + rb = 14b + b^2 + 17r + rb$ $rb + 14 = b^2 + 17r$ $b^2 + 14 = 17r$ $b^2 = 17r - 14 \rightarrow \boxed{b = 1}$ $\boxed{C = \frac{1}{17}}$	$\frac{ab}{c} = \frac{\frac{-1}{17} \times 1}{\frac{1}{17}} = \boxed{-1}$	8
$f = \{(-1, 1), (1, 1), (1, -1), (0, \frac{1}{17})\}$ $g = \{(1, 1), (1, 4), (-1, -1), (0, 0)\}$ $\frac{fg}{f+g} = \{(-1, \frac{-1}{-1}), (1, \frac{1}{1}) (1, \frac{14}{1})\} = \{(-1, 1), (1, 1), (1, 4)\}$			9
$a = d$ $a = d = -1$ $17a - 17b = 1$ $-1 = 17b$ $b = -\frac{1}{17}$	$a - 17b = c$ $-1 + 14 = c$ $\boxed{c = 13}$ $d + c = 12$		10
$-n^2 + n - m \geq 0$ $an^2 + bn + c = 0$ $\Delta = b^2 - 4ac = 1 - 4(-m \times -1) = 1 - 4m = 0$ $4m = 1 \rightarrow m = \frac{1}{4}$	$\frac{-b}{1a} = \frac{-1}{-1} = \frac{1}{1} = n$ $g(n) = \left\{\left(\frac{1}{1}, 0\right)\right\}$ $a + b = \frac{1}{1}$		11
$17n^2 + 17n + 17b = 17n^2 - 17cn + an - ac$ $-17c + a = 17$ $17b = -9c$ $17 + 17c = \frac{c}{17b}$ $17b = -17 - 17c$ $b = -1 - c$	$-17 - 17c = (-17 - 17c) \cdot c$ $c = 1$ $a = -17$ $b = -1$	$a + b + c = -17$	12