

الف) $f(x) \rightarrow D_f = [0, +\infty) \rightarrow g(x) \rightarrow x=3, D_g = \mathbb{R}$

برابر نیست

(1)

ب) $f(x) \rightarrow D_f = \mathbb{R}$ چون مربع حقیقی دارد $\rightarrow g(x) \rightarrow D_g = \mathbb{R}$
 $f(x) = g(x)$

برابر نیست

ج) $f(x) \rightarrow \mathbb{R} \quad \sin x \neq \frac{x}{y} \quad g(x) \rightarrow [-2, 2]$

برابر نیست

د) $f(x), g(x) \rightarrow D_f = D_g \rightarrow \mathbb{R} - \{0\}$

برابر است

الف) $f(x) \rightarrow D_f = \mathbb{R} \quad g(x) \rightarrow D_g = \mathbb{R}$

برابر است

(2)

ب) $f(x) \rightarrow (-\infty, \frac{1}{4}] \cup [\frac{1}{4}, +\infty) \quad g(x) \rightarrow (-\infty, 0) \cup [1, +\infty)$

برابر نیست

ج) $f(x) \rightarrow D_f = \emptyset \quad g(x) = (-\infty, 0)$

برابر نیست

د) $f(x), g(x) \quad D_f = D_g$

برابر است

$$\begin{cases} f(x) + g(x) \rightarrow x^2 + x + 1 \\ f(x) - g(x) \rightarrow x^2 - x + 1 \end{cases}$$

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

(3)

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

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

$g(x) = x$

$f(x), g(x) \rightarrow (-\infty, -2] \cap [2, +\infty) \rightarrow \{2, -2\}$

(4)

$f(x) \times g(x) \rightarrow \{(2, 2), (-2, -2)\} \times \{(2, 2), (-2, -2)\} \rightarrow \{(2, 4), (-2, 4)\}$

$(x - \frac{a}{r})(x + 1) \rightarrow x^2 + x \cdot \frac{a}{r} - \frac{a}{r} \rightarrow x^2 - \frac{a}{r}x - \frac{a}{r}$

(5)

$x=0 \rightarrow 1 - (-2) = a + 2 \leftarrow a = 1$

$-b = 2 \leftarrow b = -2$

$am - bL \rightarrow \frac{a}{r} - (-2(\frac{a}{r})) = \frac{a}{r}$

$$\text{ج1)} \frac{bx+r}{\lambda x+b} = c \rightarrow bx+r = c(\lambda x+b) \rightarrow \lambda xc + bc \rightarrow b = \lambda c \quad c = \frac{b}{\lambda}$$

$$\text{ج2)} r = bc \rightarrow r = \frac{br}{\lambda} \rightarrow 14 \rightarrow \pm \sqrt{14} \rightarrow \pm r \rightarrow b$$

$$\text{ج3)} c = \frac{b}{\lambda} \rightarrow \frac{r}{\lambda} = \frac{1}{r} \quad c = \frac{1}{r} \rightarrow \pm \frac{1}{r}$$

$$\text{ج4)} \lambda x + b = 0 \rightarrow \lambda a + b = 0 \rightarrow a = -\frac{b}{\lambda} \rightarrow b = \pm r \rightarrow \pm \frac{1}{r}$$

$$\frac{b}{r} \mid \frac{c}{\frac{1}{r}} \mid \frac{a}{\frac{1}{r}}$$

$$1) \frac{\frac{1}{r} \times r}{\frac{1}{r}} = -f$$

$$2) \frac{\frac{1}{r} \times r - f}{\frac{1}{r}} = f$$

$$f = \{(-1, 2), (2, 4), (3, -4), (0, \frac{1}{r})\}$$

$$rg = \{(2, 1), (2, 12), (-1, -1)\}$$

$$f+g = \{(-1, 0), (2, 1), (2, 4)\}$$

$$\frac{rg}{f+g} = \{(2, \frac{1}{\lambda}), (2, \frac{1}{r})\}$$

$$\rightarrow \{(2, 1), (2, 4)\}$$

$$a = -1$$

$$1 = ra - rb \rightarrow 1 = -r - rb \rightarrow r = -rb \rightarrow b = -r$$

$$a - rb = c \rightarrow -1 - (-r) \rightarrow c = r$$

$$d = -1$$

$$d + c \rightarrow -1 + r = r$$

$$x^2 - x + m \leq 0$$

$$x \in \frac{1 - \sqrt{1-4m}}{2}, \frac{1 + \sqrt{1-4m}}{2}$$

$$L + m = \frac{1 - \sqrt{1-4m} + 1 + \sqrt{1-4m}}{2} = \frac{2}{2} = 1$$

$$(rx+a)(x-c) = r(x^2+ax+b)$$

$$rx^2 - rx + ax - ac = rx^2 + (-rc + a)x - ac$$

$$rx^2 + 12x + 12b \quad \text{معطى}$$

$$a = 12 + rc$$

$$b = -c^2 - 4c$$

$$a + b + c \rightarrow 12 - c^2 - 4c$$