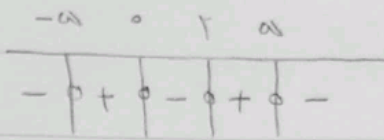
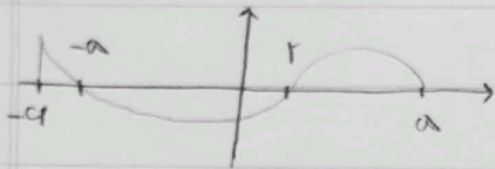


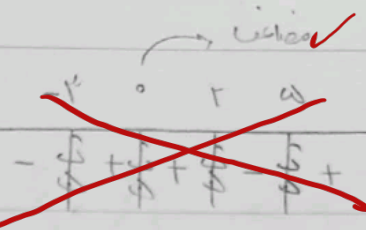
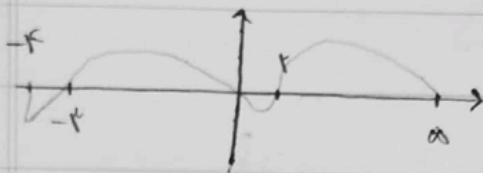
11, a

لغات، مسائل

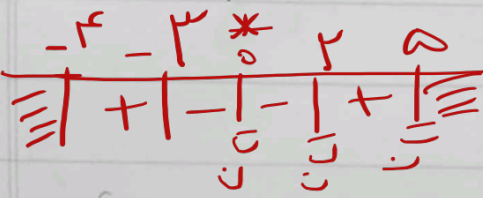


$$D_f = [-a, 0] \cup [r, a]$$

دالة $y = \sqrt{x f(x)}$ معرفة على $[a, 1]$
 $\sum_{x=a}^1 \sum_{x=a}^1$
 $\circ \quad r, a \quad -a$
5



دالة $y = \sqrt{\frac{-x}{f(x)}}$ معرفة على $[r, a]$
 $\sim -r, 0, r, a$
5, a



$D_f = (-\frac{r}{2}, r) \cup (r, a]$
 على r منقطع

$$f(-r) = r + r + r - r$$

$$f(-r) = 1 \cdot 0$$

$$f(-r) = 8$$

$$f(x) - f(r) = x^r - r^r$$

$$f(r) - r f(r) = r - r + r$$

$$f(r) = -r$$

$$f(x) = \begin{cases} x \sqrt{x+r} & ; x > r \\ r x + r & ; x \leq r \end{cases}$$

$$f(f(a)) + f(f(r)) = r + r = 2r$$

$$f(x-1) - f(x) = 9x + r$$

$$f(x) = ax^r - bx + r$$

$$a(x-1)^r - b(x-1) + r - ax^r + bx - r = 9x + r$$

$$a - b = -r - a = -1 \cdot 6$$

$$ax^r - 5ax + a - bx + b + r - ax^r + bx - r = 9x + r$$

$$(-bx + (a+b)) = 9x + r \quad -5a = 9 \quad a = -r$$

$$-r + b = r \quad b = a$$

$$f(\sqrt{r}-r) = \frac{r - 5\sqrt{r} + r + 5\sqrt{r} - 1 + a}{r - 5\sqrt{r} + r + 5\sqrt{r} - 1 + r} = \frac{r}{9} = \frac{r}{r} = 1$$

$$f(x) = \frac{x^r + rx + a}{x^r + rx + r}$$

$$f\left(x - \frac{1}{x}\right) = \frac{x^4 + 1}{x^2}$$

$$f(-2) = (-2)^2 + 2 = 11$$

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$$f\left(x - \frac{1}{x}\right) = x^2 + \frac{1}{x^2}$$

$$f\left(x - \frac{1}{x}\right) = \left(x - \frac{1}{x}\right)^2 + 2$$

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

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$$g(x) = \sqrt{9 - x^2}$$

$$f(x) = \{(2, 0), (1, -4), (0, 2), (7, 1)\} \cup \{1\}$$

$$\text{الف) } \frac{f}{g} = \left\{ (2, 0), (1, -\frac{4}{\sqrt{2}}), (0, \frac{2}{3}) \right\}$$

$$D_g = -3 \leq x \leq 3$$

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$$\text{ب) } \frac{g}{f} = \left\{ (1, \frac{\sqrt{2}}{-4}), (1, \frac{\sqrt{2}}{-1}), (0, \frac{2}{1}) \right\} = \left\{ (1, \frac{\sqrt{2}}{-1}), (0, \frac{2}{1}) \right\}$$

$$\text{الف) } 2f(x) = \{(2, 2), (4, 8), (-8, 4), (1, -4)\}$$

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$$\text{ب) } f(x+1) = \{(2, 2), (4, 8), (-8, 4), (1, -1)\}$$

$$\text{ج) } 4f^2(x) + 1 = \{(2, 4), (4, 49), (-8, 14), (1, 14)\}$$

$$\text{د) } f(2x) = \{(1, 1), (\frac{4}{1}, 4), (\frac{-8}{1}, 2), (\frac{1}{1}, -2)\}$$

$$\text{الف) } f - g = \{(1, 4), (2, 2), (4, 2)\}$$

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$$\text{ب) } \frac{2f}{g} = \left\{ (1, \frac{4}{\sqrt{2}}), (2, 4), (4, -2) \right\} = \left\{ (2, 4), (4, -2) \right\}$$