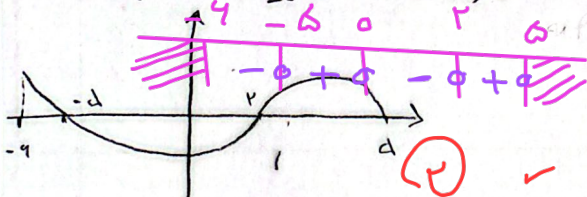


$$y = f(x) \quad y = \sqrt{x f(x)} \rightarrow \text{? ins/s}$$

$$\text{image of } f \subseteq \{x \in \mathbb{R} \mid x f(x) \geq 0\}$$



$$D_f = [-4, 0] \cup [2, 4] \Rightarrow \text{جواب}$$

$$K^D p = [-9, 2]$$

X جواب منفي $\leq -1 = x / + = f(x) \leq [-9, -2]$

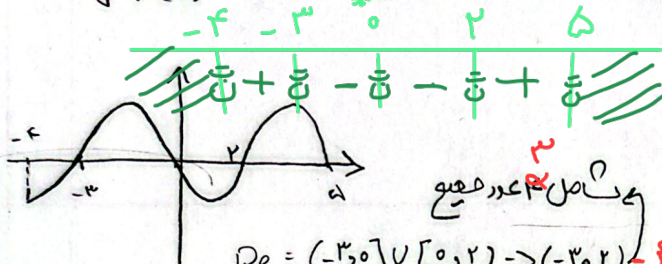
✓ جواب صواب $\leq -1 = x / - = f(x) \leq [-1, 0]$

X جواب منفي $\leq 1 + \frac{n}{-} = f(n) \leq [0, 2]$

$$1 \leq \frac{1}{1+q} = f(q) \leq [2, d]$$

$$y = \sqrt{\frac{-x}{f(x)}} \rightarrow \text{دالة جذرية}$$

$$\frac{g}{f(n)} \geq 0, \quad f(n) \neq 0$$



$$D_f = (-\infty, 0] \cup [0, 2) \Rightarrow (-\infty, 2)$$

$$x \text{ كرضفی} \Leftrightarrow f(x) < 0, -a > 0 \Leftrightarrow [-4, -3)$$

✓ $f(x) > 0, -x > 0 \Leftrightarrow (-2, 0]$ کمرست

✓ $f'(x) \leq 0, -1 \leq x \leq 0 \Rightarrow [0, 2]$

$$\{ \text{reis} \} \Leftarrow f(u) > 0, -u < 0 \Leftarrow (r, d)$$

$$f(x) - \gamma f(y) = x^2 - \gamma y^2 + K$$

$$\stackrel{r}{\Rightarrow} f(r) - rf(r) = (r)^r - r(r) + r \Rightarrow -f(r) = r \Rightarrow f(r) = -r$$

$$\stackrel{-r}{=} \Rightarrow f(-r) - \underset{r}{\cancel{r f(r)}} = (-r)^r - r(-r) + r \Rightarrow \underline{f(-r) = 10}$$

$$f(x) = \begin{cases} x - \sqrt{x+1} & x > 1 \\ 1 - x & x \leq 1 \end{cases}$$

$$f'(x) \Rightarrow x - \sqrt{x+1} \Rightarrow 1$$

$$f(r) \Rightarrow V(r) + r = V$$

$$f(1) \Rightarrow v + w = d$$

$$f(d) \Rightarrow d - \sqrt{d+k} = r$$

$$\frac{f(\cancel{f(4)})}{\cancel{4}} + \frac{f(\cancel{f(1)})}{\cancel{1}} = \boxed{9}$$

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

$$\left. \begin{array}{l} \text{---} \\ \text{---} \\ \text{---} \end{array} \right\} f(x_{i-1}) = a(x_{i-1})^r - b(x_{i-1}) + r \Rightarrow f(x_{i-1}) = ax^r - rx + a - bx + b + r$$

$$f(x+1) - f(x) = 4x + 7 \Rightarrow (au^x - 10x + a - bx + b + 7) - (au^x - bx + 7) = 4x + 7$$

$$\Rightarrow -2a + a + b = 9u + 1 \Rightarrow a = -r/b = 2 \Rightarrow a - b = -1$$

$$f(x) = x^r \cdot x^r + 1$$

$$\frac{r f(r) + f(-1)}{f(r)} \Rightarrow \frac{r(1) + (1)}{(-1)^r} = \frac{r}{1} = r$$

$$\Rightarrow f(r) = (r)^r - r(r) + 1 = 1$$

$$\Rightarrow f(-1) = (-1)^r - r(-1) + 1 = 1$$

$$\Rightarrow f(r) = (r)^r - r(r) + 1 = -1$$

✓

$$f(x) = \begin{cases} x^{r+1} & x > r \\ x^r & x < r \end{cases}$$

$$\Rightarrow f(r) = r(r) + 1 = 1$$

$$\Rightarrow f(-r) = (-r)^r = r$$

$$\Rightarrow f(r) = r(r) + 1 = r$$

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

✓

$$f = \{(r, r), (r, r), (r, 1), (1, r)\}$$

$$\frac{f(f(r)) - f(f(r))}{f(r) - r} = \frac{0}{r} = 0$$

✓

$$f(x) = \frac{x^r + r x + 1}{x^r + r x + 1} \Rightarrow \frac{(x+r)^r + 1}{(x+r)^r + 1} \Rightarrow \frac{(\sqrt{r})^r + 1}{(\sqrt{r})^r + 1} = \frac{1}{r} = r$$

$$f(f(\sqrt{r}-r)) \Rightarrow f(r) \Rightarrow \frac{(r)^r + 1}{(r)^r + 1} = \frac{r+1}{r}$$

✓

$$f(x) = x^r + \frac{1}{x^r} \Rightarrow f(\sqrt{x}) = (\sqrt{x})^r + \frac{1}{(\sqrt{x})^r} = x + \frac{1}{x} \Rightarrow (x + \frac{1}{x})^r = x^r + \frac{1}{x^r}$$

$$(f(\sqrt{x}))^r - f(x) = (x^r + \frac{1}{x^r}) - (x^r + \frac{1}{x^r}) = 0$$

✓