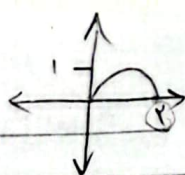


Subject: _____



5

به دلیل نقیض شدن نام گزار خواهد شد.
نمره شما منفرجه خواهد شد.

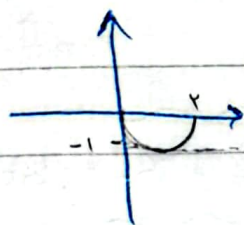
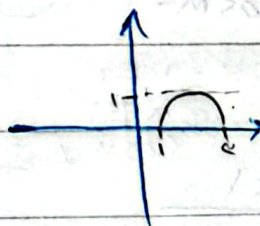
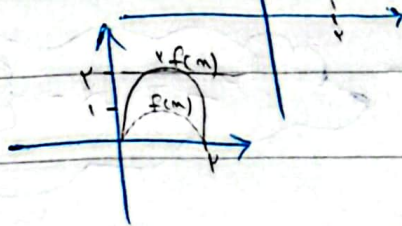
Date: _____

1- الف) $f(n) + 2$

ب) $2f(n)$

ج) $f(n-1)$

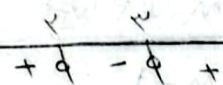
د) $-f(n)$



2

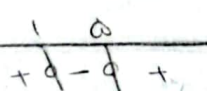
2- الف) $(n-2)(n-3) > 0$

$D_f = (-\infty, 2) \cup (3, +\infty)$



ب) $(n-1)(n-5) < 0$

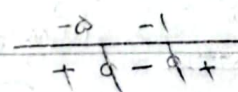
$D_f = (1, 5)$



2

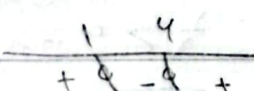
ج) $(n+1)(n+5) \geq 0$

$(-\infty, -5] \cup [-1, +\infty)$



د) $(n-1)(n-4) \leq 0$

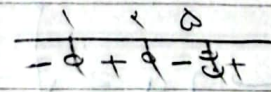
$D_f = [1, 4]$



الف) $\frac{n^2 - 2n + 2}{n-5} < 0$

$\Rightarrow \frac{(n-1)(n-2)}{n-5} < 0$

$D_f = (-\infty, 1) \cup (2, 5)$



ب) $\frac{n^2 - 1}{n^2 - 4n + 5} \geq 0$

$\frac{(n-1)(n+1)}{(n-2)^2 + 1} \geq 0$

$\Rightarrow \frac{(n-1)(n+1)}{(n-1)(n-5)} \geq 0$

$\frac{(n+1)}{(n-5)} \geq 0$

2



$D_f = (-\infty, -1] \cup (5, +\infty)$

$$ع - اف) \quad y = \sqrt{\frac{n^2 - 1}{n^2 - n}}$$

$$\frac{n^2 - 1}{n^2 - n} \geq 0$$

$$\frac{-1}{+} - \frac{0}{+} + \frac{1}{+}$$

$$Df = \mathbb{R} - \{[-1, 0], \{1\}\}$$

$$ب) \quad y = \sqrt{\frac{n^2 - 14}{n^2 - 5n + 6}}$$

$$\frac{(n-4)(n+4)}{(n-1)(n-6)} \geq 0$$

$$\frac{-4}{+} - \frac{1}{+} + \frac{4}{+}$$

$$Df = \mathbb{R} - \{(-4, 1], \{6\}\}$$

$$Df = (-\infty, -4] \cup (1, 6) \cup (6, +\infty)$$

$$د - اف) \quad y = \sqrt{4 - \sqrt{2}n} \quad \left. \begin{array}{l} n \leq 4 \\ 4 - \sqrt{2}n \geq 0 \end{array} \right\} \Rightarrow -14 \leq n \leq 4$$

$$Df = [-14, 4]$$

$$ب) \quad y = \sqrt{4 - \sqrt{n-2}} \quad \left. \begin{array}{l} n \leq 14-2 \\ n \geq 2 \end{array} \right\} \Rightarrow 2 \leq n \leq 12$$

$$Df = [2, 12]$$

$$ز - اف) \quad y = \sqrt{4 - 2n^2}$$

$$Df = [-\sqrt{2}, \sqrt{2}]$$

$$4 - 2n^2 \geq 0 \Rightarrow 2(2 - n^2) = 2(\sqrt{2} - n)(\sqrt{2} + n) \geq 0$$

$$\frac{-\sqrt{2}}{-} + \frac{\sqrt{2}}{-}$$

$$ب) \quad y = \sqrt{4|m| - 9}$$

$$Df = [4, +\infty) \cup (-\infty, -4]$$

$$4|m| - 9 \geq 0$$

$$4|m| \geq 9 \Rightarrow |m| \geq \frac{9}{4} \Rightarrow m \geq \frac{9}{4} \text{ or } m \leq -\frac{9}{4}$$

$$ص - اف) \quad y = \sqrt{\frac{|m| + 1}{|m| - 3}}$$

$$Df = \mathbb{R} - \{\pm 3\}$$

$$|m| - 3 \neq 0$$

$$m \neq \pm 3$$

$$ب) \quad y = \sqrt{\frac{\sqrt{m} + 1}{m - 3}}$$

موجب باید باشد تعریف شود

$$Df = \mathbb{R} - \{9\}$$

$$\sqrt{m} - 3 \neq 0$$

$$\sqrt{m} \neq 3$$

$$m \neq 9$$

$$1- \text{الف) } y = \frac{\sin m}{r \cos m - 1}$$

$$r \cos m - 1 \neq 0$$

$$r \cos m \neq 1$$

$$\cos m \neq \frac{1}{r}$$

$$m \neq \cos^{-1} \frac{1}{r}$$

$$r k\pi + \pi \quad 1\pi\pi - \frac{\pi}{r}$$

$$D_f = R - \left\{ r k\pi \pm \frac{\pi}{r} \right\}$$

$$2- \text{ب) } y = \frac{\cos m + 1}{r \sin m + 1}$$

$$r \sin m + 1 \neq 0$$

$$\sin m \neq -\frac{1}{r}$$

$$D_f = R - \left\{ r k\pi - \frac{\pi}{r}, r k\pi + \frac{\pi}{r} \right\}$$

$$3- \text{ج) } y = \frac{\tan m + r}{\cot m - 1}$$

$$\cos \neq 0$$

$$\sin \neq 0$$

$$\cot m \neq 1$$

$$D_f = R - \left\{ k\pi, k\pi + \frac{\pi}{r}, k\pi + \frac{\pi}{r} \right\}$$

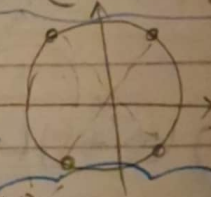
$$4- \text{د) } y = \frac{\sin^2 m + r}{r \sin^2 m - r}$$

$$r \sin^2 m \neq r$$

$$\sin^2 m \neq \frac{r}{r}$$

$$\Rightarrow \sin m \neq \pm \frac{\sqrt{r}}{r}$$

$$D_f = R - \left\{ k\pi + \frac{\pi}{r}, k\pi - \frac{\pi}{r} \right\}$$



$$\sqrt{r|m-r| - \frac{1}{r}}$$

$$D_f = \left(\frac{a}{r}, +\infty \right) \cup \left(-\infty, \frac{a}{r} \right)$$

$$r|m-r| - \frac{1}{r} > 0 \Rightarrow |m-r| > \frac{1}{r}$$

$$m-r > \frac{1}{r} \Rightarrow m > \frac{a}{r}$$

$$m-r < -\frac{1}{r} \Rightarrow m < \frac{a}{r}$$

$$10- \text{الف) } y = \sqrt{r - r|m|}$$

$$r - r|m| \geq 0$$

$$r|m| \leq r \quad -r \leq m \leq r$$

$$D_f = [-r, r]$$

$$\text{ب) } y = \sqrt{\frac{|m|}{|m|}}$$

$$D_f = R - \{0\}$$

$$\frac{|m|}{|m|} \geq 0$$

$$D_f = R - \{0\}$$

همیشه صورت و مخرج

یا برابر یا صفر نیست یا صفر می شوند

پس صفر برابر یا شد مخرج