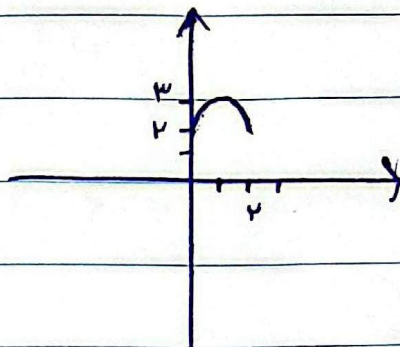
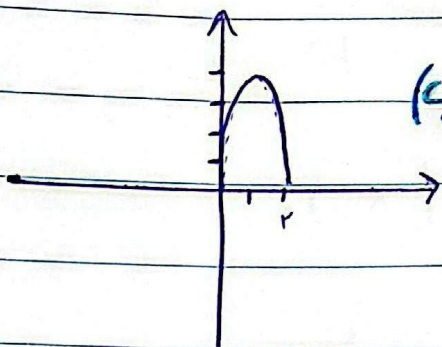


« امیر علی چاہی ہیں »

« ہم بوسہ »

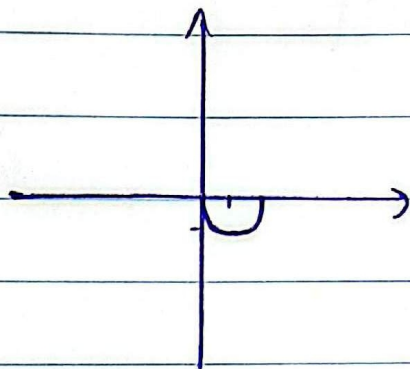
(الف)

(ب)

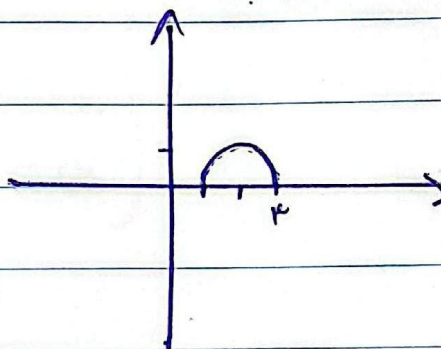


$2f(x) \Rightarrow 2y$ و x

$f(x) + 2$
رو بہ بالا



(ج)



(ج)

$-f(x)$
y قرینہ

$f(x-1)$
بہ واحد سمت راست $(\bar{f})$

$x^2 - 4x + 4 > 0$ $(x-2)(x-4)$ $\begin{matrix} 2 & 4 \\ + & - & + \end{matrix}$

(الف)

سے دیکھنا اور نظر

$D_f = (-\infty, 2) \cup (4, +\infty)$ $\leftarrow$ غلط نہیں

$x^2 - 4x + 4 < 0$ $(x-1)(x-5)$ $\begin{matrix} 1 & 5 \\ + & - & + \end{matrix}$

(ب)

$D_f = (1, 5)$

سے دیکھنا اور نظر نہیں

$$x^2 + 4x + \omega > 0 \quad (x+1)(x+\omega) \quad \begin{array}{c} -\omega \quad -1 \\ + \quad | \quad - \quad | \quad + \\ \hline \end{array} \quad (ج)$$

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

$$x^2 - 4x + 4 < 0 \quad (x-1)(x-4) \quad \begin{array}{c} 1 \quad 4 \\ + \quad | \quad - \quad | \quad + \\ \hline \end{array} \quad (د)$$

$$D_f = [1, 4]$$

$$\frac{x^2 - 4x + 4}{x - \omega} < 0 \quad \frac{(x-1)(x-4)}{x - \omega} \quad \begin{array}{c} 1 \quad 4 \quad \omega \\ - \quad | \quad + \quad | \quad - \quad | \quad + \\ \hline \end{array} \quad (الف) (ك)$$

$$D_f = (-\infty, 1) \cup (4, \omega)$$

$$\frac{x^2 - 1}{x^2 - 4x + \omega} > 0 \quad \frac{(x-1)(x+1)}{(x-1)(x-\omega)} \quad \begin{array}{c} -1 \quad 1 \quad \omega \\ + \quad | \quad - \quad | \quad - \quad | \quad + \\ \hline \end{array} \quad (ب)$$

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

$$y = \sqrt{\frac{x^2 - 1}{x^2 - 4x}} \quad \frac{(x-1)(x^2 + x + 1)}{x(x-1)(x+1)} > 0 \quad \begin{array}{c} -1 \quad 0 \quad 1 \quad \star \\ + \quad | \quad - \quad | \quad + \quad | \quad + \\ \hline \end{array} \quad (الف) (ك)$$

$$D_f = (-\infty, -1) \cup (0, 1) \cup (1, +\infty)$$

$$y = \sqrt{\frac{x^2 - 14}{x^2 - 2x + 4}} \quad \frac{(x-2)(x+2)}{(x-1)(x-2)} > 0 \quad \begin{array}{c} -2 \quad 1 \quad 4 \quad \star \\ + \quad | \quad - \quad | \quad + \quad | \quad + \\ \hline \end{array} \quad (ب)$$

$$D_f = (-\infty, -4] \cup (1, 4) \cup (2, +\infty)$$

$$y = \sqrt{K - \sqrt{P - x}}$$

(الف) (5)

$$K - \sqrt{P - x} \geq 0 \quad \text{و} \quad P - x \geq 0$$

$$K \geq \sqrt{P - x}$$

$$P \geq x$$

$$14 \geq P - x$$

$$x \leq P$$

$$x \geq -14$$

$$D_f = [-14, P]$$

$$y = \sqrt{K - \sqrt{x - P}}$$

(ب)

$$K - \sqrt{x - P} \geq 0 \quad \text{و} \quad x - P \geq 0$$

$$K \geq \sqrt{x - P}$$

$$x \geq P$$

$$9 \geq x - P$$

$$x \leq 11 \rightarrow D_f = [P, 11]$$

$$y = \sqrt{K - P|x|^P} \Rightarrow K - P|x|^P \geq 0$$

(ج) (الف)

$$P - |x|^P \geq 0$$

$$|x|^P \leq P$$

$$-\sqrt{P} \leq x \leq \sqrt{P}$$

$$D_f = [-\sqrt{P}, \sqrt{P}]$$

$$y = \sqrt{K|x| - 9}$$

$$K|x| - 9 \geq 0 \Rightarrow |x| \geq \frac{9}{K}$$

(ب)

$$D_f = \left[\frac{9}{K}, +\infty \right) \cup \left(-\infty, -\frac{9}{K} \right]$$

$$x \geq \frac{9}{K}$$

$$x \leq -\frac{9}{K}$$

SEVIL

$$y = \sqrt{\frac{|u|+1}{|u|-1}} \quad |u| \neq 1 \Rightarrow u \neq \pm 1$$

(الف) (ب)

$$D_f = \mathbb{R} - \{\pm 1\}$$

$$y = \sqrt{\frac{\sqrt{u}+1}{\sqrt{u}-1}} \quad \sqrt{u} \neq 1 \text{ و } u \geq 0$$

(ب)

$$D_f = \mathbb{R}^+ - \{1\} = [0, +\infty) - \{1\}$$

$$y = \frac{\sin u}{\cos u - 1} \quad \cos u \neq 1$$

(الف) (ب)

$$\cos u \neq \frac{1}{\mu} \rightarrow \text{زوايا } 0, \pi, \dots \text{ و } \frac{\pi}{\mu}$$

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

$$y = \frac{\cos u + 1}{\sin u + 1} \quad \sin u \neq -1$$

(ب)

$$\sin u \neq -\frac{1}{\mu} \rightarrow \text{زوايا } \frac{\pi}{\mu}, \frac{3\pi}{\mu}, \dots \text{ و } \frac{3\pi}{2}$$

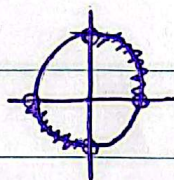
$$D_f = \mathbb{R} - \left\{ \left\{ \mu k \pi - \frac{\pi}{\mu} \right\} \cup \left\{ \mu k \pi - \frac{3\pi}{\mu} \right\} \right\}$$

$$y = \frac{\frac{\cos}{\sin} u + \mu}{\cot u - 1}$$

$$\cos \neq 0 / \sin \neq 0 / \frac{\cos}{\sin} \neq 1$$

(ج)

زوايا 0 و $\frac{\pi}{2}$



$$D_f = \mathbb{R} - \left[k\pi, k\pi + \frac{\pi}{\mu} \right]$$

دوم B بر

امیرعلی حاجی بی

$$y = \frac{\sin u + 1}{k \sin^2 u - k} \quad \sin^2 u \neq \frac{k}{k} \quad (1) \quad \text{نمایی ۱۰۰٪}$$

$$\sin u \neq \frac{\sqrt{k}}{k} \Rightarrow$$

$$D_f = \mathbb{R} - \left\{ \left\{ 2k\pi + \frac{\pi}{k} \right\} \cup \left\{ 2k\pi + \frac{3\pi}{k} \right\} \right\}$$

$$y = \frac{1}{\sqrt{2|u-v| - \frac{1}{k}}} \quad 2|u-v| - \frac{1}{k} > 0 \quad (9)$$

$$2|u-v| > \frac{1}{k}$$

زیرادکال
نیز بسیاری صفر
و منفی می باشد

$$|u-v| > \frac{1}{2k}$$

$$(1) \quad u-v > \frac{1}{2k} \Rightarrow u > \frac{v}{k}$$

$$(2) \quad u-v < -\frac{1}{2k} \Rightarrow u < \frac{v}{k}$$

$$(1) \text{ و } (2) \Rightarrow D_f = \left(-\infty, \frac{v}{k} \right) \cup \left(\frac{v}{k}, +\infty \right)$$

$$y = \sqrt{k - 2|u|} \quad (10) \quad k - 2|u| > 0$$

$$k > 2|u|$$

$$D_f = [-2, 2] \quad 2 > |u| \Rightarrow 2 > u > -2$$

$$y = \sqrt{\frac{|u|}{|u|}} \quad (11) \quad |u| \neq 0 \Rightarrow u \neq 0$$

زیرادکال به سبب اینکه
مستوی صفر باشد و چون
قدر مطلق داریم نگران منفی شدن نیستیم

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