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19

نظاره

$$الف) y = \sqrt{4-x} \quad 4-x \geq 0 \quad 4 \geq x$$

$$D_f = [-4, 4]$$

$$x \leq 4 \quad 4 \geq x$$

$$-4 \leq x \leq 4 \quad x \geq -4$$

$$ب) y = \sqrt{4-x} \quad 4-x \geq 0 \quad 4 \geq x$$

$$D_f = [2, 11]$$

$$x \geq 2 \quad 4 \geq x$$

$$2 \leq x \leq 11 \quad 11 \geq x$$

$$ج) y = \sqrt{4-2x} \quad 4-2x \geq 0$$

$$D_f = [-2, 2]$$

$$x \leq 2 \quad -2 \leq x \leq 2$$

$$د) y = \sqrt{4|x|-9} \quad 4|x|-9 \geq 0$$

$$D_f = (-\infty, -3] \cup [3, +\infty) \quad |x| \geq 3 \Rightarrow x \leq -3 \quad x \geq 3$$

$$الف) y = \sqrt{\frac{|x|+1}{|x|-4}}$$

$$|x|-4 \neq 0$$

$$D_f = \mathbb{R} - \{\pm 4\}$$

$$|x| \neq 4 \Rightarrow x \neq \pm 4$$

$$ب) y = \sqrt{\frac{\sqrt{x}+1}{\sqrt{x}-4}}$$

$$\sqrt{x}-4 \neq 0$$

$$D_f = [0, +\infty) - \{4\}$$

$$\sqrt{x} \neq 4 \Rightarrow x \neq 16, x \geq 0$$

$$الف) y = \frac{\sqrt{4-|x|}}{|x|+2}$$

$$4-|x| \geq 0$$

$$|x|+2 \neq 0$$

$$D_f = [-4, 4]$$

$$|x| \leq 4 \Rightarrow -4 \leq x \leq 4$$

$$|x| \neq -2$$

$$ب) y = \frac{\sqrt{4-x^2}}{|x|-1}$$

$$4-x^2 \geq 0$$

$$|x|-1 \neq 0$$

$$D_f = [-2, 2] - \{\pm 1\}$$

$$x^2 \leq 4$$

$$-2 \leq x \leq 2$$

$$|x| \neq 1 \Rightarrow x \neq \pm 1$$

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تکانه ریاضی

$$\text{الف) } y = \frac{x+1}{\sqrt{x+|x|}}$$

$$x+|x| > 0$$

$$D_f = (0, +\infty)$$

$$|x| > -x$$

$$0 < x$$

Ⓟ

✓

$$\text{ب) } y = \frac{1}{\sqrt{x|x|}}$$

$$x|x| > 0$$

$$D_f = (0, +\infty)$$

$$x > 0$$

$$\text{الف) } y = \sqrt{1-x}$$

$$1-x \geq 0$$

$$D_f = (-\infty, 1)$$

$$x \leq 1$$

Ⓟ ✓

$$\text{ب) } y = \frac{1}{\sqrt{1-x}}$$

$$1-x > 0$$

$$D_f = (-\infty, 1)$$

$$x < 1$$

$$\text{الف) } y = \frac{1}{x[x]}$$

$$x[x] \neq 0$$

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

Ⓟ

✓

$$\text{ب) } y = \frac{1}{\sqrt{-x[x]}}$$

$$-x[x] > 0$$

$$D_f = \emptyset$$

$$\text{الف) } y = \sqrt{\left[x - \frac{1}{x}\right] + \left[x + \frac{1}{x}\right]}$$

$$\left[x - \frac{1}{x}\right] + \left[x + \frac{1}{x}\right] \geq 0$$

$$\left[x - \frac{1}{x}\right] + \left[x + \frac{1}{x}\right] \geq 0$$

Ⓟ 1, 1/2

$$D_f = \left[\frac{1}{x}, +\infty\right)$$

$$\left[x + \frac{1}{x}\right] \geq 1$$

$$\left[x + \frac{1}{x}\right] \geq \frac{1}{x}$$

$$x + \frac{1}{x} \geq 1 \rightarrow x \geq \frac{1}{x}$$

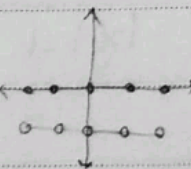
$$\text{ب) } y = \sqrt{\left[x - \frac{1}{x}\right] + \left[-x + \frac{1}{x}\right]}$$

$$[a] + [-a] = 0 \quad (a \in \mathbb{Z})$$

$$x - \frac{1}{x} \in \mathbb{Z}$$

$$x \in \mathbb{Z} + \frac{1}{x}$$

$$D_f = \left\{x \mid x \in k + \frac{1}{x}, k \in \mathbb{Z}\right\}$$



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الزاوية

$$الف) y = \frac{1}{r \sin^2 \pi - 1}$$

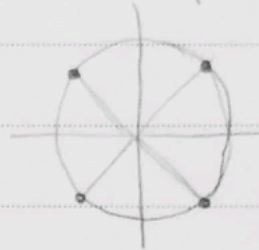
$$r \sin^2 \pi - 1 \neq 0$$

$$\sin^2 \pi + \frac{1}{r}$$

$$\sin \pi + \frac{\sqrt{r}}{r}$$

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

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

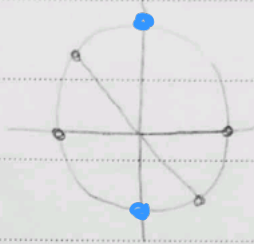


1, 5

$$ب) \frac{\cot \pi + 1}{\tan \pi + 1} \quad \sin \pi \neq 0$$

$$\cot \pi + 1 \neq 0 \rightarrow \tan \pi \neq -1$$

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



$$الف) y = \sqrt{r \sin \pi - 1} \quad r \sin \pi - 1 \geq 0$$

$$r \sin \pi \geq 1 \rightarrow \sin \pi \geq \frac{1}{r}$$

$$D_f: \left[\frac{k\pi}{r} + \frac{\pi}{r}, \frac{k\pi}{r} - \frac{\pi}{r} \right]$$

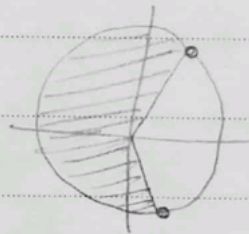


1, 10

$$ب) y = \sqrt{1 - r \cos \pi} \quad 1 - r \cos \pi \geq 0$$

$$\cos \pi \leq \frac{1}{r}$$

$$D_f: \left[\frac{k\pi}{r} + \frac{\pi}{r}, \frac{k\pi}{r} + \frac{6\pi}{r} \right]$$



1, 11, 12