

درس اسلامی

تلف شماره ۳

یازدهم رفر

الف) $2x^3 + 3x^2 - 1x + 3 \div x - 1 \rightarrow (x-1)(2x^2 + 5x - 3)$ (1)

$-2x^3 + 2x^2$ $2x^2 + 5x - 3$ $\hookrightarrow x \neq 1$

$5x^2 - 1x + 3$

$\Delta = 25 - 4(-4) = 49$

$-5x^2 + 5x$

$\hookrightarrow -3x + 3$

$\frac{-5 \pm 7}{2} = \frac{1}{2}, -3$

$\frac{+3x - 3}{0}$

$Df: R - \{-3, \frac{1}{2}\}$

ب) $2x^3 + 9x^2 + 10x + 3 \div x + 1 \rightarrow (x+1)(2x^2 + 7x + 3)$

$-2x^3 + 2x^2$

$2x^2 + 7x + 3$

$\hookrightarrow x \neq -1$

$\Delta = 49 - 4(6) = 25$

$7x^2 + 11x + 3$

$-7x^2 + 7x$

$\frac{-7 \pm 5}{2} = -3, -\frac{1}{2}$

$3x + 3$

$Df: R - \{-3, -\frac{1}{2}\}$

ان) $2x^3 - 2x^2 + 2x - 1 \div x - 1 \rightarrow (x-1)(2x^2 - x + 1)$ (2)

$-2x^3 + 2x^2$

$2x^2 - x + 1$

$\hookrightarrow$

$\Delta = 1 - 4(2) < 0$

$-2x^2 + 2x - 1$

$x - 1$

$x + 1$

$+2x^2 \div 2$

$x + 1$

$Df: R - \{+1\}$

ب) $\frac{x+3}{(x-1)(2x^2-x+1)} \rightarrow x = -3, x = 1$ $Df: R - \{-3, 1\}$

$\Delta < 0$

$\frac{-3}{+} \frac{1}{-}$

$Df: (-\infty, -3] \cup (1, +\infty)$

① $x-1 > 0 \rightarrow x > 1 \rightarrow x^2 - 5x + 10 = 0 \quad (x-5)(x-2)$ (3)

$x^2 - 5x + 10 - 2x + 10$

$x = 5, 2$

② $x-1 < 0 \rightarrow x < 1 \rightarrow x^2 + 5x - 5 - 2x + 5 = 0 \rightarrow x^2 + 3x = 0$

$x(x+3) = 0 \quad x = 0 \quad x = -3$

$Df: R - \{-3, 0, 2, 5\} \cup (-\infty, -3) \cup (-3, 0) \cup (0, 2) \cup (2, 5) \cup (5, +\infty)$

Veshko

الف) $[-x] - 2 \geq 0 \rightarrow [-x] \geq 2 \rightarrow -x \geq 2 \rightarrow x \leq -2$

$D = (-\infty, -2]$
 $x \leq -2$

(1)

ب) $[x^2] - 1 \{x\} - 3 \neq 0 \rightarrow ([x] - 3)([x] + 1)$

$[x] \neq 3 \quad [x] \neq -1 \rightarrow 3 \leq x < 4, \quad -1 \leq x < 0$

$D = \mathbb{R} - [-1, 0) \cup [3, 4)$

الف) $[x - \frac{1}{\mu}] + [x + \frac{1}{\mu}] + 1 \geq 1$

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

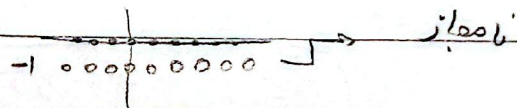
(2)

$2[x + \frac{1}{\mu}] \geq 1 \rightarrow [x + \frac{1}{\mu}] \geq \frac{1}{2}$

$x \geq \frac{1}{\mu}$

$\rightarrow D = [\frac{1}{\mu}, +\infty)$

ب) $[x - \frac{1}{\mu}] + [\frac{1}{\mu} - x]$



$x - \frac{1}{\mu} \in \mathbb{Z} \rightarrow x \in \mathbb{Z} + \frac{1}{\mu} \rightarrow D = \{ \frac{1}{\mu} + k \mid k \in \mathbb{Z} \}$

الف) $y = \frac{\cot x + 1}{\tan x + 1}$



$D = \mathbb{R} - (\{ \frac{k\pi}{2} \} \cup \{ k\pi - \frac{\pi}{2} \})$

$\tan x + 1 \neq 0 \rightarrow \tan x \neq -1$

ب) $1 - \sqrt{\sin^2 x} \geq 0 \rightarrow \sqrt{\sin^2 x} \leq 1 \rightarrow \sin^2 x \leq \frac{1}{4}$

$|\sin x| \leq \frac{1}{2}$



$D = [k\pi - \frac{\pi}{6}, k\pi + \frac{\pi}{6}]$

$\sin x \leq \frac{1}{2}$

$\sin x \geq -\frac{1}{2}$

الف) $r \sin x - 1 \geq 0 \rightarrow r \sin x \geq 1 \rightarrow \sin x \geq \frac{1}{r}$

$D = [rk\pi + \frac{\pi}{6}, rk\pi + \frac{5\pi}{6}]$



(3)

ب) $1 - r \cos x \geq 0 \rightarrow r \cos x \leq 1 \rightarrow \cos x \leq \frac{1}{r}$

$D = [rk\pi + \frac{\pi}{3}, rk\pi + \frac{5\pi}{3}]$

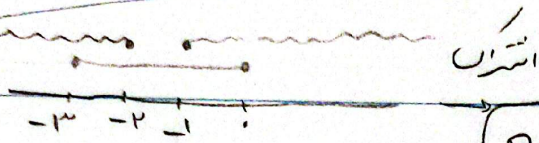


الف) $-1 \leq x^2 + 3x + 1 \leq 1 \rightarrow (x+2)(x+1) \rightarrow x = -2, -1$

Veshko $x^2 + 3x + 1 \geq 0$

$x^2 + 3x \leq 0 \rightarrow x(x+3) \leq 0$

الافق صفوحه



ا) اذاع الف بطل 1 ←

$$Df = [-3, -2] \cup [-1, 0]$$

ب) $\sqrt{5-2x} < 1 \rightarrow 5-2x < 1 \rightarrow 2x > 4 \rightarrow x > 2$

$5-2x > 0 \rightarrow 2x \leq 5 \rightarrow x \leq 5/2 \rightarrow D_f = [2, 2.5]$

الف) $1 - \log_3^2 x > 0 \rightarrow \log_3^2 x < 1 \rightarrow x < 3 \rightarrow x > 0$ (9)

ب) $1 - \log_{1/3}^2 x > 0 \rightarrow \log_{1/3}^2 x < 1$ $D = (0, 3)$ $b \neq 1$
 $\rightarrow x > 1/3 \rightarrow x > 0 \rightarrow D = (1/3, +\infty)$ $b > 0$ بعد زياد و دودار.

الف) $x^2 - x^2 = 0 \rightarrow x^2 - 4x + 3 = 0 \rightarrow x^2 - 4x + 3 \leq 0$ (10)

$x^2 - x^2 = 3 \rightarrow x^2 - 4x + 3 = 0 \rightarrow (x-3)(x-1)$

$x=3 \quad x=1$ $D = [1, 3]$

ب) $\frac{rx+a}{rx+\varepsilon} \in W \rightarrow rx+a \in rxw + \varepsilon w$

$rx - rxw \in \varepsilon w - a$

$x(r-rw) \in \varepsilon w - a \rightarrow x \in \frac{\varepsilon w - a}{r-rw}$

$\rightarrow D = \left\{ \frac{\varepsilon k - a}{r-rk} \mid k \in W \right\}$