

سارا امیری شهبازی ۹ نام خانوادگی: پانسم نام: با است. مطالعه کن

(۱) ۱۲۵

الف) $\frac{x^4}{x^3 - 2x^2 + 31x - 10} =$ $Dy = \mathbb{R} - \{1, 40, 2, 5\}$
 $6(x-1)($

ب) $\frac{x^3}{3x^3 - x^2 - 11x - 6} = \frac{3x^3 - x^2 - 11x - 6}{3x^3 - x^2 - 11x - 6} \neq 0$ $Dy = \mathbb{R} - \{-1, -\frac{2}{3}, 2\}$

الف) $\frac{x+1}{x-\sqrt{3-2x}} = \frac{x-\sqrt{3-2x}}{x-\sqrt{3-2x}} \neq 0$ $Dy = (-\infty, \frac{3}{4}] - \{1\}$
 $x^2 \neq \sqrt{3-2x}$
 $x^2 \neq 3-2x$

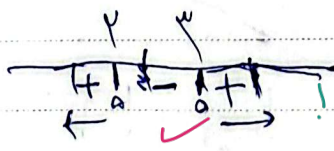
ب) $\frac{x+2}{x-\sqrt{3x-2}} = \frac{x-\sqrt{3x-2}}{x-\sqrt{3x-2}} \neq 0$ $Dy = [\frac{2}{3}, +\infty) - \{1, 2\}$
 $x^2 \neq \sqrt{3x-2}$
 $x^2 \neq 3x-2 \rightarrow 2 \neq 3x-x^2$

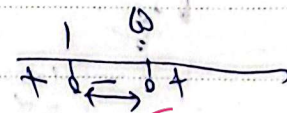
الف) $\frac{\sin x}{2\cos x - 1} = \frac{2\cos x - 1}{2\cos x - 1} \neq 0$ $Dy = \mathbb{R} - \{2k\pi \pm \frac{\pi}{3}\}$
 $2\cos x \neq 1$

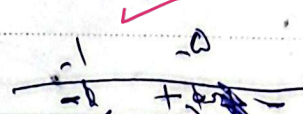
ب) $\frac{\cos x + 1}{2\sin x + 1} = \frac{2\sin x + 1}{2\sin x + 1} \neq 0$ $Dy = \mathbb{R} - \{2k\pi + \frac{11\pi}{6}, 2k\pi + \frac{5\pi}{6}\}$
 $2\sin x \neq -1$

ج) $\frac{\tanh x + 1}{\cot x - 1} = \frac{\cot x - 1}{\cot x - 1} \neq 0$ $Dy = \mathbb{R} - \{\frac{1}{e}, k\pi + \frac{\pi}{2}\}$
 $\cot x \neq 1$

د) $\frac{\sin x + 1}{\sinh x - 3} = \frac{\sinh x - 3}{\sinh x - 3} \neq 0$ $Dy = \mathbb{R} - \{k\pi \pm \frac{\pi}{2}\}$
 $\sinh x \neq 3$

الف) $x^2 - 5x + 6 > 0 \rightarrow (x-2)(x-3)$  جواب: ناممکن است! (۱)

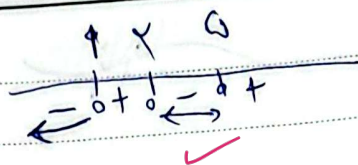
ب) $x^2 - 4x + 4 < 0 \rightarrow (x-1)(x-4)$ 

ج) $x^2 + 4x + 4 > 0 \rightarrow (x+1)(x+4)$ 

د) $x^2 - 4x + 4 < 0 \rightarrow (x-1)(x-4)$ 

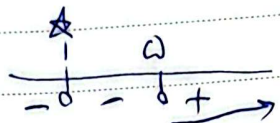
$$(x-1)(x-2)$$

$$x^2 - 3x + 2 < 0$$



108 (a)

$$x^2 - 1 > 0$$



$$-1 < x < 1$$

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

$$(x-1)(x-2) > 0$$

$$(x-1)(x-2) > 0$$

$$x_1, x_2 \quad (1) \quad (2)$$

$$x^2 - 5x + 3 > 0$$

$$x^2 - 5x + 3 > 0$$

$$x^2 - 1 \neq 0 \Rightarrow x \neq \pm 1$$

$$D_y = [2, +\infty)$$

$$x^2 - 5x + 3 > 0 \Rightarrow x^2 - 1 \neq 0 \Rightarrow x \neq \pm 1 \Rightarrow D_f = \mathbb{R} - \{1\} \rightarrow \mathbb{R} - \{\pm 1\}$$

(1) (v)

$$y = \log(x^2 - 3x) \Rightarrow x^2 - 3x > 0 \Rightarrow x(x-3) > 0$$

$$y = \log|x| - 2 \Rightarrow |x| - 2 > 0 \Rightarrow |x| > 2 \Rightarrow x < -2 \text{ or } x > 2$$

$$y = \log \frac{x^2 + 2x + 1}{x-2} \Rightarrow 1 - x \neq 1, 1 \neq x, \frac{(x-2)(x-2)}{x-2} > 0$$

كامل و مرتب نبوی

$$y^2 \sqrt{x^2 - 11x + 11} + \log x \rightarrow x > 0$$

$$y = \frac{x^2 - x}{x^2 + x} \rightarrow x^2 + x \neq 0 \Rightarrow x(x+1) \neq 0 \Rightarrow D_f = \mathbb{R} - \{0, -1\}$$

(1)

$$y = \sqrt{\frac{x-f(x)}{f(x)}} \rightarrow \frac{x-f(x)}{f(x)} > 0, f(x) \neq 0$$

(9)

$$f(x) + 1 \rightarrow$$

(10)

$$f(x-1) \rightarrow$$

$$-f(x) \rightarrow$$

$$f(x+1) \rightarrow$$