

نام و نام خانوادگی ..... احمد اصباحی ..... پاسخنامه تشریحی تکلیف شماره ۵ ... کلاس ..... چهارم دبیرستان .....  
 باید % ۱۰ آزمون

رابطه‌ی توانمندی زیر را بر است آورید

$$y = \frac{\sin x - 2}{2 \cos x + 1} \quad 2 \cos x + 1 = 0 \quad \cos x = -\frac{1}{2} \quad x = \pm \frac{2\pi}{3} + 2k\pi, k \in \mathbb{Z}$$

$$D_f = R_1 \left\{ x/x = \frac{2\pi}{3} + 2k\pi, x = \frac{4\pi}{3} + 2k\pi, k \in \mathbb{Z} \right\}$$

$$y = \frac{\sin x + 3}{\cos x - 1} \quad \cos x - 1 = 0 \quad \cos x = 1 \quad x = 2k\pi, k \in \mathbb{Z} \quad D_f = R_1 \{ 2k\pi, k \in \mathbb{Z} \}$$

رابطه‌ی توانمندی زیر حساب کنید

$$(ب) y = \frac{\cos x + 1}{\tan x - 1}$$

$$\sin x = 0 = x = \frac{\pi}{2} + k\pi = \frac{\pi}{2} + \tan x$$

$$\tan x = -1 \Rightarrow x = -\frac{\pi}{4}$$

$$الف) \sin y = x^2 - 2 \quad -1 \leq \sin y \leq 1 \quad D_f = x \in \mathbb{R} / 1 \leq x^2 \leq 3 \Rightarrow [\sqrt{3}, 1] \cup [1, \sqrt{3}]$$

$$-1 \leq x^2 - 2 \leq 1$$

$$(ب) y = \arccos(\sqrt{x} - 3) \quad x \geq 0 \rightarrow -1 \leq \sqrt{x} - 3 \leq 1 \quad \begin{matrix} \rightarrow x = 4 \\ \rightarrow x = 16 \end{matrix}$$

$$D_f = [4, 16]$$

$$(الف) \cos y = |x| - 3 \quad -1 \leq |x| - 3 \leq 1 \quad 2 \leq |x| \leq 4 \quad |x| \in [2, 4]$$

$$D_f = [-4, -2] \cup [2, 4]$$

$$-1 \leq x^2 + 3x + 1 \leq 1 \rightarrow x \in [-3, 0]$$

$$(ب) y = \arcsin(x^2 + 3x + 1) \quad D_f = [-3, -2] \cup [-1, 0]$$

$$y = \log_3 \frac{x^2 - 4}{3} \quad x^2 - 4 = 0 \quad x^2 > 4 \quad x > 2 \vee x < -2$$

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

$$y = \log_2 \frac{2 - |x|}{2} \quad 2 - |x| > 0 = |x| < 2 \quad -2 < x < 2$$

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

$$(الف) y = \log \frac{\alpha - x}{x - 3} \quad \alpha > x \Rightarrow 0 < x - \alpha$$

$$3 < x \Rightarrow 0 < 3 - x$$

$$D = (-3, -2) \cup (-2, -1) \cup (1, \infty)$$

$$f - x \Rightarrow 1 - 3 - x$$

$$f = x \quad \alpha > x > 3$$

$$D = (3, 4) \cup (4, \alpha)$$

$$(ب) y = \log \frac{x^2 - 1}{x + 3}$$

$$(الف) y = \log \frac{x^2 - 4x + 3}{x - 3} \quad (x^2 - 1)(x - 3) = x \neq 3 \quad x - 1 > 0 \Rightarrow x > 1$$

$$(1, 3) \cup (3, \alpha)$$

$$(ب) y = \log \frac{\frac{x+3}{x-3}}{x+\alpha} \quad x + \alpha > 0 \Rightarrow x > -\alpha \Rightarrow x \neq -\alpha = 1$$

$$D = \{x - \alpha, 3\} \cup (3, \infty) - \{x = 1\}$$

$$(الف) y = \sqrt{3 - \log(x-1)} \quad x-1 > 0 \Rightarrow x > 1, \quad x-1 \leq 1 \Rightarrow x \leq 2 \Rightarrow D = 2, 10$$

$$(ب) y = \log(2 \log \frac{x}{3} - 1)$$

$$y = \frac{3}{f^x + 1}$$

$$\frac{3}{f^x - 2}$$

$$y = \frac{3}{f^x - 1}$$

$$\frac{3}{f^x - 3}$$

$$y = (f^x + 1)!$$

$$y = \left( \frac{3x-2}{2x-\alpha} \right)!$$