

نام و نام خانوادگی محمد علی پاسنامه تشریحی تکلیف شماره ۱ کلاس (۱۵) A

$$y_1^2 = 2x_1^2 + 2x_1 - 1 \Leftrightarrow y_2^2 = 2x_2^2 + 2x_2 - 1 \Rightarrow y_2^2 = y_1^2 \Rightarrow y_1 = y_2 \quad \text{الف}$$

$$x \cos y = y \cos x \Rightarrow x = \frac{\pi}{4} \Rightarrow \dots \quad \frac{\pi}{4} \cos y = 0 \cos y \Rightarrow y \in \{x, \frac{\pi}{2}\}$$

$$\frac{x+y}{2} = \sqrt{xy} \Rightarrow 2\sqrt{xy} = x+y \Rightarrow 2xy = x^2 + y^2 + 2xy \Rightarrow x^2 + y^2 - 2xy = 0 \quad \text{ب}$$

$$\Rightarrow (x-y)^2 = 0 \Rightarrow x=y \quad \text{ج}$$

$$(x^2+2)(x-y) = 0 \Rightarrow x=y \Rightarrow \dots \quad \text{د}$$

$$f(x) = \begin{cases} 2x^2 - 6 & |x-1| \geq 2 \Rightarrow |x-1| > 2 \Rightarrow x-1 \geq 2 \Rightarrow x \geq 3 \quad x-1 \leq -2 \Rightarrow x \leq -1 \\ a+2x & -3 \leq x \leq -1 \end{cases}$$

$$\text{در } x = -1 \Rightarrow 2(-1)^2 - 6 = a + 2(-1) \Rightarrow a + b = 4$$

$$x=b \Rightarrow a-b^2-b^2 \Rightarrow a=b^2 \quad \text{الف}$$

$$-b = a+b \Rightarrow 2b = -a \Rightarrow a = -2b \Rightarrow -2b = b^2 \Rightarrow b^2 + b = 0 \Rightarrow b \in \{0, -1\}$$

$$a = -2b \Rightarrow a = -2(-1) \Rightarrow a = 2 \Rightarrow a+b \Rightarrow 2+(-1) = 1$$

$$a=0 / b < 0 / 2b+c=0 \Rightarrow c=-2b / a+c-3|b| \Rightarrow$$

$$3(0) + (-2b) - 3(-b) \Rightarrow -2b + 3b = b$$

$$\sqrt{\frac{1}{|x|-[x]}} \Rightarrow |x| - [x] + 0 \Rightarrow |x| = [x] \Rightarrow x \geq 0 \Rightarrow x = 2^+ \quad \text{الف}$$

$$\sqrt{x} + \sqrt{y} = 9 \Rightarrow x > 0 \quad \text{ب}$$

$$0 \leq x \leq 11 \Rightarrow x \in [0, 11]$$

if $a < x < 1 \rightarrow \log_{\frac{1}{x}} x-1 \geq 0 \rightarrow x-1 \leq 1 \rightarrow x \leq \frac{2}{x}$

$\sqrt{\log_{\frac{1}{x}} x-1} \Rightarrow$ ① $x > 0$ ② $x-1 > 0 \Rightarrow x > 1$ ③ $\log_{\frac{1}{x}} x-1 \geq 0 \Rightarrow x-1 \geq 1 \Rightarrow x \geq \frac{2}{x}$
 $x \in [\frac{2}{x}, +\infty) - \{1\}$

$\log_{\frac{1}{x+1}} x = \Rightarrow$ ① $x + \sqrt{x+1} - 1 \neq 0 \Rightarrow x + \sqrt{x+1} - 1 = 0 \Rightarrow -x^2 + x + 1 = 0 \rightarrow x = \frac{1 \pm \sqrt{5}}{2}$
 $x \in (-9, +9)$

بازجمله $\Rightarrow (x, +\infty)$ $b = -2$ باشد $\Rightarrow$ $x + b = 0 \Rightarrow b = -2$

$\sqrt{\frac{x^2+1}{x+b}} + a \Rightarrow x = 2 \Rightarrow \frac{x^2+1}{x+b} \rightarrow x+b=0 \Rightarrow b=-2$

$\frac{(x+a)x + ab + 1}{x+b}$

صورت نباید مثبت باشد
 $a = -3$ $x + a = 0$

$f(x) = \begin{cases} x-1 & x \geq 0 \\ x+1 & x < 0 \end{cases} \Rightarrow \sqrt{f(x)-x+1} \geq 0 \Rightarrow \begin{cases} x & x \geq 0 \\ x+1 & x < 0 \end{cases}$

$x+1 \geq 0 \Rightarrow x \geq -1 \Rightarrow D_1 = [-1, +\infty)$

$\frac{x^2 x^2 + x^2 x^2 + 1}{(x^2 + x + 1)^2} \Rightarrow \frac{x^2 x^2 + x^2 x^2 + 1}{((x^2 + 1)^2)^2} \Rightarrow D_f = \mathbb{R} - \{-\frac{1}{2}\}$

مخرج $\rightarrow \frac{x^2 (x^2 + 1)^2}{(x^2 + 1)^4} \rightarrow \frac{x^2}{x^2 + 1}$

$\sqrt{1 - \log_{\frac{1}{x-a}} x} \Rightarrow$ ① $x-a > 0 \Rightarrow x > a \rightarrow x > \frac{1}{x} \rightarrow = b$ ② $1 - \log_{\frac{1}{x-a}} x \geq 0 \Rightarrow \log_{\frac{1}{x-a}} x \leq 1 \Rightarrow x-a \leq 1 \Rightarrow$

$\frac{1+a}{x} \geq a \rightarrow = c$
 $c = 1 \Rightarrow \frac{1+a}{x} - \frac{a}{x} \Rightarrow \frac{1}{x} = c$