

نام و نام خانوادگی کلاس پاسخنامه تشریحی تکلیف شماره! B

الف) تابع است $y^3 = 2x^2 + 2x - 1 \Rightarrow y = \sqrt[3]{2x^2 + 2x - 1}$ ✓
 تابع نیست α و $y = \frac{2x^3}{3}$ $\Rightarrow \frac{2x^3}{3} \cos y = y \cos y \Rightarrow \cos y = 0 \Rightarrow y = \frac{\pi}{2} \Rightarrow x = \frac{3\pi}{4}$
 ب) $x \cos y = y \cos x$ $x = \frac{\pi}{4} \Rightarrow \frac{\pi}{4} \cos y = y \cos \frac{\pi}{4} \Rightarrow \cos y = 0 \Rightarrow y = \frac{\pi}{2}$
 2) $(\frac{x+y}{2})^2 = xy \Rightarrow x^2 + y^2 + 2xy = 4xy \Rightarrow x^2 + y^2 - 2xy = 0 \Rightarrow (x-y)^2 = 0 \Rightarrow x-y=0 \Rightarrow x=y$ تابع است ✓
 3) $x(y^2 + 2) = y^2 + 2y \Rightarrow x = \frac{y^2 + 2y}{y^2 + 2} = \frac{y(y+2)}{y^2 + 2}$ تابع است ✓

$\Rightarrow [x] + [y] = 1 \rightarrow [y] = 1 - m \Rightarrow 1 - m \leq y < 2 - m$ تابع نیست α
 الف) $y \geq 0 \Rightarrow y = \frac{x^2}{2}$ تابع است ✓
 $y < 0 \Rightarrow y = -x^2$ تابع است ✓
 در کل تابع است ✓

$f(x) = \begin{cases} x^2 - b & x \leq 1 \\ a + 2x & x > 1 \end{cases}$ $x=1 \Rightarrow 1 - b = a + 2 \Rightarrow 1 = a + b$

$a - bx - x^2 \geq 0 \Rightarrow x^2 + bx - a \leq 0$ $a+b=2-1=1$
 $b=a$ $x=1$
 $+ \quad - \quad +$
 $x=1$
 $s = -a = a - b$ $b = -1$
 $p = -b = a + b$ $a = -2b \Rightarrow a = 2$

احتمالاً 2 است و قیما را بیست است $\Leftarrow$ معادله 2 درجه ای است
 $a(2+x)^2 > 0$
 $\frac{a}{a} \frac{x^2}{b} - \frac{2ax}{b} + \frac{4a}{b} > 0$
 $a > 0 \Rightarrow (-\infty, \frac{2a}{a}) \cup (\frac{4a}{a}, \infty)$
 $3a + c - 3|b| \rightarrow 3a + 4a - 3(-4a) = 19a$ $\frac{19a}{b} \rightarrow \frac{19a}{-4a} b = -\frac{19}{4} b$

$$a) x(x-1)(x+1) \geq 0 \quad \frac{-1 \quad 0 \quad 1}{-\quad + \quad - \quad +} \quad [-1, 0] \cup [1, \infty) = D_y$$

$$\Rightarrow |x| > 0 \quad |x| > 1 \rightarrow x > 1 \quad (-\infty, -1) \cup (1, \infty)$$

$$\begin{aligned} & \frac{y(x+y+a)(x+b)}{x+b} \geq 0 \quad \text{if } x+y+a=0 \Rightarrow b=-x \quad \frac{y(x+y+a)(x-y)}{x-y} \geq 0 \\ & \frac{y(x+y+a)(x+y+a)}{x-y} \geq 0 \quad \text{if } x+y+a=0 \Rightarrow y(x+y+a) = 0 \quad x-y \neq 0 \quad \text{if } x+y+a=0 \end{aligned}$$

$$a) |x| \neq [x] \quad D_y = \mathbb{R} - \{x^+, 0\}$$

$$\begin{aligned} & \Rightarrow y = (\sqrt{9-5x})^2 \Rightarrow 9-5x \geq 0 \quad 9 \geq 5x \quad x \leq 1.8 \\ & x \geq 0 \quad y \geq 0 \quad 0 \leq x \leq 1.8 \quad D_y = [0, 1.8] \end{aligned}$$

$$\begin{aligned} & [x-\frac{1}{x}] + [x+\frac{1}{x}] > 1 \Rightarrow [A] + [A+1] > -1 \Rightarrow y[A] > -1 \quad [A] > -1 \rightarrow A \geq 0 \\ & (x-\frac{1}{x}) = A \quad x-\frac{1}{x} \geq 0 \quad x \geq \frac{1}{x} \quad D_y = [\frac{1}{x}, \infty) \end{aligned}$$

$$\begin{aligned} & 1 - \log(x-a) \geq 0 \quad 1 \geq \log(x-a) \quad 10 \geq x-a \quad a + \frac{1}{x} \geq x \\ & x-a > 0 \quad x > \frac{a}{x} \quad D_y = \left(\frac{a}{x}, a + \frac{1}{x}\right] \quad c-b = a - \frac{a}{x} + \frac{1}{x} = \underline{\underline{a}} \end{aligned}$$