

4, 75

نام و نام خانوادگی کلاس شماره پاسنامه تشریحی تکلیف شماره 4

$$\sqrt{f(x) - f(x+1)} \Rightarrow \int_0^1 \sqrt{f(x) - f(x+1)} dx = 1, D_f \in \mathbb{R}$$

1

$$f(x) = \frac{f(x)}{f(x)} / f \circ f(x) < f(x^3) = f(x) < x^3 \Rightarrow (x^3 + x) < x^3$$

$$\Rightarrow \text{الیه می رسد} \Rightarrow x^3 + x < x^3 \Rightarrow x < 0 \Rightarrow x \in (-\infty, 0) \checkmark$$

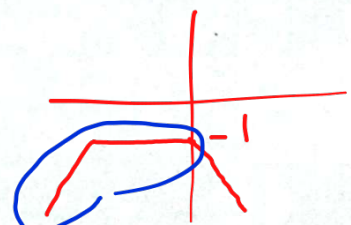
2

$$x \nearrow x(x + \frac{1}{x}) = x^3 + 1$$

$$x \searrow x(x - \frac{1}{x}) = x^3 - 1 \Rightarrow \text{نایکونوا} \checkmark$$

3

$$\frac{2x+1}{|x|-|x+1|} \xrightarrow{\text{ریشه ها 0 و -1}} \Rightarrow \int_0^1 \frac{2x+1}{|x|-|x+1|} dx = \frac{1}{2} \Rightarrow -2(-\frac{1}{2}) - 1 = \frac{1}{2}$$

$$(-\infty, \infty) \Rightarrow \text{محدود} \Rightarrow a = 0$$


محدود $(-\infty, \infty)$

4

$$\log_{\frac{1}{p}}(x^2 - 2x - 1) = \log_{\frac{1}{p}} x / x^2 - 2x - 1 \Rightarrow$$

$$(-\infty, -2) \Rightarrow \text{نزدیکی} \Rightarrow \text{الیه می رسد} \Rightarrow \text{کردن} \checkmark$$

5

$$a^2 - 3 \geq 1 \Rightarrow \underline{a > 2 \wedge a < -2} \checkmark$$

الف) صعود
 $x_2 > x_1$

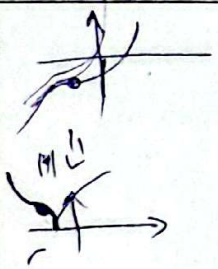
1, 5

$$a^2 - 3 \geq 1 \Rightarrow a \geq 2 \wedge a \leq -2 \checkmark$$

ب) صعود
 $x_2 \geq x_1$

6

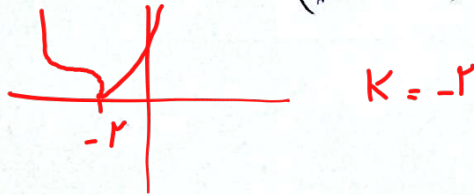
$$a^2 - 3 = 0 \rightarrow a = \pm \sqrt{3}$$



$$\Rightarrow a^2 + 6a + 9 \rightarrow a \uparrow, b \uparrow \Rightarrow x \rightarrow -3 \rightarrow y \rightarrow -1$$

$$(K \in \mathbb{R}) \Rightarrow (K \in \mathbb{R}) \Rightarrow K = -3$$

$$f(x) = (x + 3)^3 - 1$$



7

$$f(x) = x + \sqrt{x} - 2 \Rightarrow \text{نقطة} / f(x) \leq \sqrt{x} \Rightarrow x + \sqrt{x} - 2 \leq \sqrt{x}$$

1, 5, 6

$$x - 2 \leq 0 \Rightarrow 0 \leq x \leq 2 \Rightarrow \text{مجموعة}$$

$$f \circ f(x) \text{ min } 0, f(x) \geq 0 \rightarrow x \geq 1$$

$$\Rightarrow [1, 2] \text{ دوعدر}$$

8

$$f(x) = \sqrt[3]{9x^2 - 1} - \sqrt[3]{1 - 9x^2} \Rightarrow f(x) = 2, \frac{1}{\sqrt{x}} = 2 \Rightarrow 2 - \frac{1}{\sqrt{x}} = 2a$$

0

$$b - a = 2 + 2 - \frac{1}{\sqrt{x}} = \frac{1\sqrt{x}}{\sqrt{x}}$$

ياستفاد

9

$$x - [x + 2] = x - [x] + 2 \Rightarrow y \in \mathbb{R} \Rightarrow g(f(x)) = \frac{f(x) - f(x)}{2}$$

0

$$\frac{x - x}{2 - 2} \left\{ \begin{array}{l} \text{max} \Rightarrow +\infty \\ \text{min} \Rightarrow -\infty \end{array} \right\} \Rightarrow R_{gof} \in \mathbb{R}$$

ياستفاد

10