

6. نه دار خواص
(1) سوال

$$1) \rightarrow (3, 2) \text{ و } (m, 2) \rightarrow m = 3$$

$$(3, n^2 - n) (n, 2) (3, 2) (-1, 2)$$

$$n^2 - n = 2 \rightarrow (n-2)(n+1) = 0$$

$$\boxed{n=2} \quad \text{و} \quad n = -1 \text{ حذف}$$

$$2) m=2 \text{ و } (a, 1) (-1, 1) \rightarrow a = -1 \rightarrow (a+2, n) (1, 2)$$



$$x+a \rightarrow 0 < \dots$$

$$a+1 \leq 2 \rightarrow a < 1$$

2. سوال

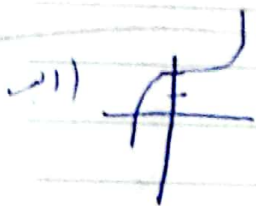
$$\begin{cases} 3x-1 \text{ و } x \geq 1 \\ ax+a-1 \text{ و } x \leq 0 \end{cases}$$

$$\rightarrow a > 0 \text{ و}$$

(2) سوال

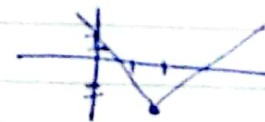
$$I \cap II \rightarrow 0 < a < 1$$

$$a-1 < 2 \text{ و } a < 1$$

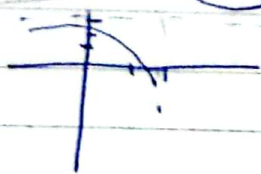


$$y = x^2 + 2 \rightarrow y'' = 2x - 2 \rightarrow y'' = 0 \text{ و } x = 1$$

(3) سوال



1) ان



$$x = 2 \rightarrow 1$$

$$x = \frac{y-2}{y-1} \rightarrow x = \frac{y-2}{y-1}$$

(4) سوال

$$x = \frac{y-2}{y-1} \rightarrow x = \frac{y-2}{y-1}$$

$$y = \frac{2x+1}{x-2}$$

$$2) x = -1 \rightarrow 2 \frac{(2+x)}{x+2} \rightarrow \dots$$



Senobar



سوال ۴) $y = \sqrt{x-3} \rightarrow y^2 = x-3 \rightarrow x = y^2+3 \rightarrow y = \sqrt{x-3}$ (بک ریشه دارد) (الف)

ب) $y = (x-1)(x-3)$

بک ریشه هست

$x \in [3, +\infty)$

$y = x^2 - x + 1 - 1$

$y = (x-1)^2 - 1$

$f(x) = x + \sqrt{x} \rightarrow x + \sqrt{x} + \frac{1}{x} - \frac{1}{x} \rightarrow x + \sqrt{x} + \frac{1}{x} - \frac{1}{x}$

$(\sqrt{x} + \frac{1}{x}) - \frac{1}{x} = y$

$\sqrt{y+1} = |x+1|$

$y+1 = x^2 \rightarrow x = \sqrt{y+1}$

$y = x^2 - 1$

(الف)

$\rightarrow y + \frac{1}{x} = (\sqrt{x} + \frac{1}{x})^2$

$\sqrt{y+1} = |x+1| \rightarrow \sqrt{x} = \sqrt{y+1} - \frac{1}{x}$

$\rightarrow \sqrt{y} = \pm \sqrt{x + \frac{1}{x}} - \frac{1}{x}$

$\rightarrow y' = x + \frac{1}{x} + \frac{1}{x} - \frac{1}{x^2}$

$-\sqrt{x} - \frac{1}{x} = \sqrt{y+1} - \frac{1}{x} \rightarrow \sqrt{y+1} = \sqrt{x} + \frac{1}{x}$

$ax + b - \sqrt{x-c}$

$x + \frac{1}{x} - \sqrt{x + \frac{1}{x}}$

$\Rightarrow u = 1$

$b = \frac{1}{x} \Rightarrow 1 + 1 + \frac{1}{x}$

$c = -\frac{1}{x}$

$y = x - \sqrt{x + \frac{1}{x}}$

$y = x \rightarrow \frac{x_1}{\sqrt{x_1^2-1}} = \frac{x_2}{\sqrt{x_2^2-1}} \rightarrow x_1 = x_2$

$\frac{x_1}{\sqrt{x_1^2-1}} = \frac{x_2}{\sqrt{x_2^2-1}} \rightarrow x_1^2 = x_2^2 \rightarrow x_1 = x_2$

$x_1^2 x_2^2 - 1 x_1^2 = x_1^2 x_2^2 - 1 x_2^2 \rightarrow x_1^2 = x_2^2 \rightarrow x_1 = x_2$

$\rightarrow \frac{y}{\sqrt{y-1}} = x \rightarrow y = \pm \sqrt{\frac{y x^2}{x^2-1}} = \pm \sqrt{y x}$

$f(x) = \frac{x}{1+x} \rightarrow y = \frac{x}{1+x} \rightarrow x < 0 \rightarrow \frac{x}{1-x} = y \rightarrow x = -\frac{y}{1+y}$

$g(x) = \sqrt{x} - 1 \rightarrow x = \sqrt{y+1} \rightarrow \sqrt{y} = x+1 \rightarrow y = (x+1)^2$

$g^{-1}(-\frac{1}{2}) \rightarrow (-\frac{1}{2} + 1)^2 = \frac{1}{4}$

$$f(x) = \sqrt[3]{x-1} \rightarrow x = \sqrt[3]{y-1} \rightarrow$$

Go on

$$x^3 = y - 1 \rightarrow x^3 + 1 = y$$

$$g(x) = f(x) + \sqrt{f(x)} \rightarrow y = x^3 + 1 + \sqrt{x^3 + 1}$$

$$12 = x^3 + 1 + \sqrt{x^3 + 1}$$

$$x = 2 \quad \text{Ans}$$