

۱۲/۲۵

تحلیلاً ضعیف بیان سوال آخره (۵) داده شده قابل خواندن نبودند خوانا و واضح تر نوشته شود

۱- الف)

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

$$n = 2$$

$$\begin{cases} n = 2 \\ n = -1 \end{cases}$$

$$\text{همین } (-1, 0) \text{ و } (1, 0) \text{ و } (2, 0)$$

۲)

$$\text{ب-)} \quad n = 2 \rightarrow (2, 0) = (m, 0)$$

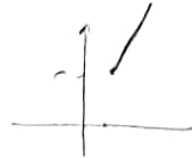
$$(-1, 1) = (0, 1) \rightarrow a = -1$$

$$(4, 0) = (1, 2) \rightarrow n = 3$$

$$\begin{aligned} y &= 1 + 0 + 2 \\ y &= 3 \end{aligned}$$



$$a = 1 + 2 = 3$$



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$$\text{الف)} \quad y = n^2 + 1 \rightarrow$$

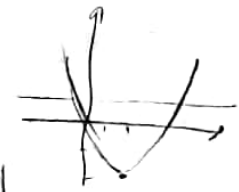


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$$n = 4 \rightarrow y = 17$$

۵)

$$\text{ب-)} \quad y = \frac{n^2 - 2n + 1}{(n-1)^2}$$



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$$\text{الف)} \quad y = \frac{nx + 1}{n - 1}$$

$$n = 0 \rightarrow y = -\frac{1}{1}$$



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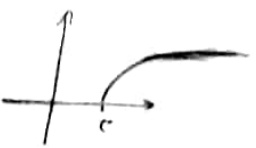
۵)

$$\text{الف)} \quad n = \frac{ny + 1}{y - 1} \rightarrow y = \frac{nx + 1}{n - 1}$$

$$\text{ب-)} \quad y = \frac{2 + (n)}{n + 1} \quad f(2, n) = y = 1$$

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$$\text{الف)} \quad y = \sqrt{a - x}$$



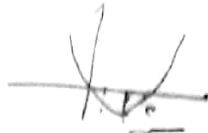
$$n = \sqrt{4 - x} \rightarrow 4 - x = n^2$$

۵)

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

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

$$x \in \mathbb{R}$$



$$x \in [1, \infty)$$

U, i, e, o, c, i, e

$$y = x^2 - 2x + 1 \rightarrow f(x) = x^2 - 2x + 1 \rightarrow f'(x) = 2x - 2 = 0 \rightarrow x = 1 \rightarrow y = 0$$

$$Df(x) = Rf'(x) \rightarrow f \leq \sqrt{x+1} + c \rightarrow \sqrt{x+1} \rightarrow -1 \leq x$$

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

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

$$\frac{1}{2} < \sqrt{x + \frac{1}{2}} \rightarrow \frac{1}{2} < x + \frac{1}{2} \rightarrow x > 0 \rightarrow y = \sqrt{x + \frac{1}{2}} - \frac{1}{2}$$

$$a = 0 \quad b = \frac{1}{2}$$

$$f_{(n)}^{-1} = \frac{x}{1+x^2}$$

$$g_{(n)} = \sqrt{x-1}$$

$$f(-\frac{r}{\theta}) = g^{-1}(-\frac{r}{\theta})$$

(1) -9

$$f_{(n)}^{-1} = \frac{x}{1+x^2}$$

$$f_{(n)}^{-1} = x = \frac{y}{1-y} \Rightarrow y = \frac{-x}{n-1}$$

$$f_{(n)}^{-1} = x = \frac{y}{1-y} = y = \frac{-x}{n-1} \Rightarrow y = \frac{-x}{n-1} = \frac{-\frac{r}{\theta}}{-\frac{r}{\theta}} = \frac{r}{r} = 1$$

$$g_{(n)}^{-1} = y = \sqrt{x-1}$$

$$\Rightarrow g_{(n)}^{-1} = x = \sqrt{y-1} \Rightarrow (x+1)^2 = y$$

$$f(-\frac{r}{\theta}) = g_{(-\frac{r}{\theta})}^{-1} = \frac{r}{\theta} = \frac{r}{\theta} \checkmark$$

$$f_{(n)}^{-1} = \sqrt{x-1}$$

$$g_{(n)} = f(x) + \sqrt{f(x)}$$

$$g_{(n)}^{-1}$$

$$g_{(n)} = x^2 + 1 + \sqrt{x^2 + 1}$$

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

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$$f_{(n)}^{-1} = y = \sqrt{x-1}$$

$$\Rightarrow f_{(n)} = x = \sqrt{y-1} \Rightarrow y = x^2 + 1$$

$$f(a) = \frac{r}{\theta} = \frac{a}{1+a^2} \rightarrow a = \frac{r}{\theta}$$

$$g(b) = \frac{-r}{\theta} = \sqrt{b-1} \rightarrow b = \frac{r}{\theta}$$

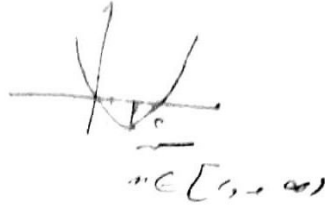
$$a+b = \frac{-r}{\sqrt{a}}$$

(9)

$$7) \quad y = (n-1)(n+1)$$

$$y = x^2 - 1, \quad x \in \mathbb{R}$$

$$x \in \mathbb{R} \quad \frac{dy}{dx} = 2x$$



Uprava

$$y = x^2 - 1 \Rightarrow x = \sqrt{y+1} \quad \text{for } y \geq -1 \quad \text{and} \quad x = -\sqrt{y+1} \quad \text{for } y \geq -1$$

$$D_{f(n)} = R_{f(n)} \rightarrow \sqrt{y+1} \leq \sqrt{y+1} + 1 \rightarrow -1 \leq x$$

$$f(n) : x \mapsto x + \sqrt{x} \rightarrow x + \sqrt{x} = \frac{1}{2} - \frac{1}{2}$$

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

$$\frac{1}{2} < \sqrt{x + \frac{1}{2}} \rightarrow \frac{1}{2} < x + \frac{1}{2} \rightarrow x > 0 \quad y = \sqrt{x + \frac{1}{2}} - \frac{1}{2}$$

$$a = 0 \quad b = +\frac{1}{2}$$