

۱۴, ۲۵

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۱۰ کلاس:
 ۱۴, ۲۵

$$(2 \in 2) \Rightarrow (n \in 2) \Rightarrow m = 2 \checkmark$$

$$n^2 - n^2 = 2 \Rightarrow n = 2 \checkmark$$

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$$(m \in 2), (2 \in 2) \Rightarrow m = 2, (a \in 2) \Rightarrow a = 1 \Rightarrow$$

$$(a \in m-1) \Rightarrow (1 \in 1) \Rightarrow (a+2 \in 2) \Rightarrow n = 2$$

$$n = 2 \checkmark, m = 2 \checkmark, a = -1 \checkmark$$

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$$n < 2 - a$$

$$n \leq 2 - a \Rightarrow$$

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$$a - 1 < 2$$

$$a < 3$$

$$a > 0$$

$$n < 1$$

$$a \in (-\infty, 0)$$

$$0 < a < 3$$

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$$y_1 = x_1^2 + 2, y_2 = x_2^2 + 2$$

$$x_1^2 + 2 = x_2^2 + 2 \Rightarrow x_1^2 = x_2^2 \Rightarrow x_1 = x_2$$

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$$y_1 = x_1^2 - \epsilon_{n_1} + 2, y_2 = x_2^2 - \epsilon_{n_2} + 2$$

$$x_1^2 - \epsilon_{n_1} + 2 = x_2^2 - \epsilon_{n_2} + 2$$

$$x_1^2 - \epsilon_{n_1} = x_2^2 - \epsilon_{n_2}$$

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$$n = \frac{y+1}{y-2}, n_1 = \frac{y_1+1}{y_1-2}, n_2 = \frac{y_2+1}{y_2-2}$$

$$n_1 = n_2 \checkmark$$

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$$y = \frac{r+2n}{n+2} = \frac{r_{n+2}}{n+2} = 2 \mid n \neq -2$$

$$y = 2 \rightarrow$$

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یہ بہت

$y = \sqrt{x-2}$ $y_1 = \sqrt{x_1-2}$ $y_1 = y_2$ $\sqrt{x_1-2} = \sqrt{x_2-2}$
 $y_2 = \sqrt{x_2-2}$
 $x_1-2 = \pm (x_2-2) \Rightarrow x_1-2 = x_2-2$
 $x_1 = x_2$
 $\therefore y = x^2 - 2x + 2$ $x \in [2, +\infty)$ $\sqrt{x+1} + 2$ $y = x^2 + 2$

(1, 2)

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$f(x) = x + \sqrt{x} = (\sqrt{x} + \frac{1}{\sqrt{x}})^2 - \frac{1}{x} \rightarrow f^{-1}(x) = (\sqrt{x} + \frac{1}{\sqrt{x}} + \frac{1}{\sqrt{x}})^2$
 $f^{-1}(x) = x + \frac{1}{x} - \sqrt{x + \frac{1}{x}}$ $\begin{cases} a = 1 \\ b = \frac{1}{x} \\ c = -\frac{1}{x} \end{cases} \rightarrow a+b+c = 1$

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$\frac{x^2}{\sqrt{x^2-2}} = y \Rightarrow \frac{x_1}{\sqrt{x_1^2-2}} = y, y_1 = y_2 \Rightarrow \frac{x_1}{\sqrt{x_1^2-2}} = \frac{x_2}{\sqrt{x_2^2-2}}$
 $\frac{x_1}{\sqrt{x_1^2-2}} = y_2$
 $x_1^2 \cdot x_2^2 - 2x_1^2 = x_1^2 \cdot x_2^2 - 2x_2^2 \Rightarrow x_1 = x_2$
 $\therefore \sqrt{x} > 0 \Rightarrow \frac{1}{x} = \frac{1}{x}$ $f^{-1}(x) = \frac{\sqrt{x}}{\sqrt{x^2-1}}$ $x_1 = x_2$

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$f(-\frac{2}{5}) = ?$ $f^{-1}(x) = \frac{x}{1+|x|}$ $x_{f^{-1}} = y_{f^{-1}}, y_{f^{-1}} = x_{f^{-1}}$
 $\Rightarrow \frac{-2}{5} = \frac{x}{1+|x|} \Rightarrow -2 - 2|x| = 0 \Rightarrow x = -2$
 $\Rightarrow f(-\frac{2}{5}) = -\frac{2}{5}$ $g^{-1}(\frac{2}{5}) = ?$ $\Rightarrow -\frac{2}{5} = \sqrt{x-1} \Rightarrow \sqrt{x} = \frac{2}{5}$
 $\Rightarrow x = \frac{4}{25}$ $\Rightarrow g^{-1}(\frac{2}{5}) = \frac{4}{25}$ $\Rightarrow \frac{4}{25} - \frac{2}{5} = \frac{-2}{5}$

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$g^{-1}(12) \Rightarrow 12 = f(x) + \sqrt{f(x)} \Rightarrow t = f(x) \Rightarrow \sqrt{t} + t = 12$
 $t + \sqrt{t} - 12 = 0 \Rightarrow \sqrt{t} = \frac{-1 \pm \sqrt{49}}{2} = \frac{-1 \pm 7}{2}$
 $\Rightarrow t = 9 \Rightarrow f(x) = 9 \Rightarrow x = 9$
 $\Rightarrow f^{-1}(12) = 9$

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