

الف) $n^2 - n = 2 \rightarrow n = -1 \rightarrow \alpha$
 $\rightarrow n = 2$ $\Rightarrow \{(-1, 2), (-1, 4), (2, 2)\}$ 19 (2)

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

$a + 1 \leq 2 \Rightarrow a \leq 1$ (2)

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

$g < 2 \Rightarrow a - 1 < 2 \Rightarrow a < 3$
 $\rightarrow a < 3$ (1)

الف) $y = \frac{x^2 + 1}{x - 2} \rightarrow f^{-1}(m) = \frac{m^2 + 1}{m - 2}$ (2)
 $\rightarrow y = 2 \rightarrow$ (2)

الف) $y = x^2 + 2$ (2)

$\rightarrow n^2 - 2m + 2 \rightarrow$ (2)
 $\rightarrow \sqrt{m+1} + 2$

$m + \sqrt{n} \Rightarrow (\sqrt{n} - \frac{1}{\sqrt{n}})^2 - \frac{1}{\sqrt{n}} = y \Rightarrow \sqrt{y + \frac{1}{\sqrt{n}}} - \frac{1}{\sqrt{n}} = \sqrt{n}$
 $\Rightarrow y = n + \frac{1}{\sqrt{n}} - \sqrt{n + \frac{1}{\sqrt{n}}} \Rightarrow a = 1, b = \frac{1}{\sqrt{n}}, c = -\frac{1}{\sqrt{n}}$ (2)

$$\frac{n_1}{\sqrt{n_1^2 - r}} = \frac{n_2}{\sqrt{n_2^2 - r}} \rightarrow n_1^2 = n_2^2 \Rightarrow n_1 = \pm n_2$$

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$$\rightarrow y^r = \frac{n^r}{n^r - r} \rightarrow f(n) = + \sqrt{\frac{r n^r}{n^r - r}}$$

$$= \frac{n \sqrt{r}}{\sqrt{n^r - r}} \checkmark$$

(۲)

$$\omega n = -r + -r/n \Rightarrow n = -\frac{r}{\omega}$$

$$\sqrt{n} - 1 = -\frac{r}{\omega} \rightarrow n = \frac{r}{\omega^2}$$

$$\Rightarrow \frac{r}{\omega^2} - \frac{r}{\omega} = -\frac{r r}{\omega^2} \checkmark$$

(۲)

$$f(n) = n^r + 1 \Rightarrow r = n^r + 1 \cdot \sqrt{n^r} \rightarrow n = r$$

$$\Rightarrow g^{-1}(1r) = r \checkmark$$

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