

عرفان حقیقی دوازدهم سر

$$\begin{cases} f(-n) - n f(n) = r|n| + 1 \\ f(n) + n f(-n) = r|n| + 1 \end{cases}$$

(1)

$$\Rightarrow -n f(-n) + n^r f(n) = -n (r|n| + 1)$$

$$f(n) + n^r f(n) = (r|n| + 1)(1-n) \Rightarrow f(n)(1+n^r) = (r|n| + 1)(1-n)$$

$$f(n) = \frac{(r|n| + 1)(1-n)}{n^r + 1}$$

$$n = 0 \Rightarrow f(\cdot) + f(\cdot) = 2 \Rightarrow r f(\cdot) = 2 \Rightarrow f(\cdot) = \frac{2}{r}$$

$$f(n) + \frac{2}{r} = n^r - \frac{2}{r}n + 2 \Rightarrow f(n) = n^r - \frac{2}{r}n + \frac{2}{r}$$

$$\Rightarrow f(n^r) = n^r - \frac{2}{r}n^r + \frac{2}{r}$$

$$y = \frac{n^r + n + r}{n-1} \Rightarrow y(n-1) = n^r + n + r$$

$$\Rightarrow yn - y = n^r + n + r \Rightarrow n^r + (1-y)n + (r+y)$$

$$\Delta = b^r - (a) \Rightarrow (1-y)^r - r(1)(r+y) \geq 0 \Rightarrow$$

$$\Delta = (1 - ry + y^r) - (1 + ry) \geq 0 \Rightarrow (y - r)(y + 1) \geq 0$$

$$R_f = (-\infty, -1] \cup [r, +\infty)$$

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$$1) \quad r^n - an + 1 \Rightarrow$$

$$\frac{-b}{2a} = \frac{a}{r}$$

$$= \frac{1V}{\lambda}$$

$$r\left(\frac{a}{r}\right) - a\left(\frac{a}{r}\right) + 1 \Rightarrow \frac{1V}{\lambda}$$

$$R_f) = \left[-\frac{1V}{\lambda}, +\infty \right)$$

$$2) \quad -n^2 + 4n - a \Rightarrow \begin{cases} \mu \\ r \Rightarrow (-\infty, r] \end{cases}$$

$$\Rightarrow \sqrt{-n^2 + 4n - a} \Rightarrow R_f) [0, r]$$

$$3) \quad n^4 - 3n^2 + (n+1) \Rightarrow \text{بزرگترین توان فر است} \text{ بر } R \text{ است}$$

$$\sqrt{n^4 - 3n^2 + (n+1)} \Rightarrow [0, +\infty) = R_f)$$

$$4) \quad n^4 - 4n^2 + 7n + 2 \Rightarrow \text{بزرگترین توان فر است} \text{ بر } R \text{ است}$$

$$\log(n^4 - 4n^2 + 7n + 2) \Rightarrow R_f) = (-\infty, +\infty)$$

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(2)

$$1) R_f = R - \left\{ \frac{\mu}{r} \right\}$$

$$2) \frac{r_{n+1}}{n-r} \Rightarrow R - \left\{ r \right\} \Rightarrow \sqrt{\frac{r_{n+1}}{n-r}} \Rightarrow R_f = [0, +\infty) - \left\{ r \right\}$$

$$3) n^r + \mu = t \Rightarrow \frac{t^r + 1}{t} = t + \frac{1}{t}$$

$$R_f = \left[\frac{r\sqrt{\mu}}{\mu}, +\infty \right) \quad \frac{r\sqrt{\mu}}{\mu} \leftarrow t = \sqrt{\mu} \leftarrow t \geq \sqrt{\mu}$$

$$4) n^r + r + \frac{1}{n^r + r} - r \xrightarrow{n^r + r = t} t + \frac{1}{t} - r$$

$$R_f = \left[\frac{1}{r}, +\infty \right) \quad \frac{1}{r} = y_{\min} \quad r = t_{\min}$$

$$y(n^r - 1) = \mu n^r + r \Rightarrow y n^r - y = \mu n^r + r$$

$$(y - \mu) n^r = y + r \xrightarrow{y \neq \mu} n^r = \frac{y + r}{y - \mu}$$

$$\frac{y + r}{y - \mu} \geq 0 \Rightarrow R_f = (-\infty, -r] \cup (\mu, +\infty)$$

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$$\min = 0 \Rightarrow \frac{r(0) + r}{0 - 1} = -r$$

$$\lim_{n \rightarrow +\infty} \Rightarrow r$$

مخرج می تواند صفر شود پس

$$R_f = (-\infty, -r] \cup (r, +\infty)$$

$$\sin n = 1 \Rightarrow \frac{r + r}{1 - r} = -r$$

سوال ۷-

$$\sin n = -1 \Rightarrow \frac{r(-1) + r}{-1 - r} = -\frac{1}{r}$$

مخرج صفر نمی شود

$$R_f = [-r, -\frac{1}{r}]$$

سوال ۸-

$$y = \left| \frac{r_n - 1}{r_n} \right| \Rightarrow [0, +\infty) - \left\{ \frac{r}{r} \right\}$$

$$\Rightarrow y = \sqrt{\frac{r(n-2)}{r(n-2)}} \Rightarrow R_f = \left\{ \frac{r}{r} \right\}$$

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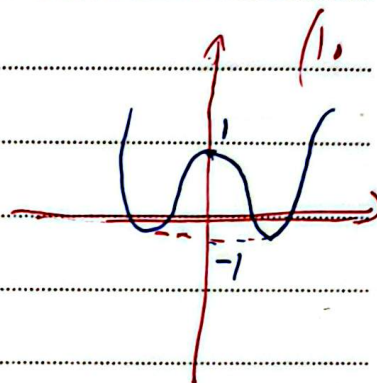
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$$\frac{n^r - r_n}{n^r - r_n}$$

$$(-\infty, 1) \cup [-1, +\infty) \Rightarrow R_f = R$$

$$f(n) + 1 \Rightarrow$$

$$|f(n) + 1| \Rightarrow$$



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