

19, 25

عرفان حفیظ یزدہم ریاضی سر A

$$\sqrt{\frac{n-1}{n} - \frac{n}{n-1}} \geq \cdot \Rightarrow \frac{n^r - 2n + 1 - n^r}{n^r - n} \geq \cdot \quad (1)$$

$$\frac{-2n+1}{n^r-n} \geq \cdot \quad \frac{\frac{1}{r} \cdot 1}{+0 \cdot - \cdot +0 \cdot} \quad n \neq \cdot, 1$$

$$D_f = (-\infty, \cdot) \cup \left[\frac{1}{r}, 1\right) \checkmark$$

$$n+1 \neq \cdot \quad n \neq -1 \quad n \neq \cdot \quad n \neq 1 \quad n \neq -r$$

$$\frac{r}{n-1} + \frac{1}{n+r} \neq \cdot \Rightarrow \frac{r}{n-1} \neq \frac{-1}{n+r} \Rightarrow$$

$$r(n+r) \neq -n+1 \Rightarrow rn \neq -\omega \quad n \neq \frac{-\omega}{r}$$

$$D_f = \mathbb{R} - \left\{ (\cdot) (1) (-r) \left(-\frac{\omega}{r}\right) (-1) \right\} \checkmark$$

$$\frac{-r \log_r r}{+ \cdot - \cdot +} \quad D_f = (-\infty, -r] \cup \left[\log_r r, +\infty\right) \left(\frac{r}{r}\right)$$

$$\log_r r = \frac{\omega}{r} \log_r r = \left(\frac{\omega}{r}\right)$$

آزم

$$\sqrt{n-1} - r = -\sqrt{r+1} \quad (-)$$

$$|n-1| \geq 0 \Rightarrow n \geq 1$$

$$II \quad \sqrt{n-1} - r \leq 0 \Rightarrow \sqrt{n-1} \leq r \Rightarrow n-1 \leq r^2 \Rightarrow n \leq r^2 + 1$$

$$D_f = [1, r^2]$$

$$n^r - n - r > 0 \quad n < -\frac{1}{r} \quad \frac{-1}{r} \quad (r)$$

$$n^r - 1 \geq 0 \quad n^r \geq 1 \Rightarrow (n \geq 1 \cup n \leq -1) \quad (r)$$

$$\sqrt{n^r - 1} + 1 \neq 0 \quad D_f = (-\infty, -1) \cup (r, +\infty) \quad \checkmark$$

$$-n^r + an + r \stackrel{n=r}{=} 0 \Rightarrow -r^r - ra + r = 0 \Rightarrow -ra = 1 \quad (r)$$

$$a = -\frac{1}{r} \Rightarrow -n^r - \frac{1}{r}n + r = 0 \quad n < -\frac{r}{r} \quad (r)$$

$$-(r^r n + n - r) \Rightarrow -(n^r + n - r) \Rightarrow$$

$$-(n+r)(n-r) \quad n < -\frac{r}{r} \quad \boxed{a+b = -\frac{1}{r} + \frac{r}{r} = 1} \quad \checkmark$$

آذین

$$f(n) - n \geq 0 \rightarrow f(n) \geq n \Rightarrow \begin{cases} r_n - r \geq n & n \geq 1/d \\ r_n + r \geq n & n < 1 \end{cases}$$

$$r_n - r \geq n \Rightarrow r_n \geq r + n \geq 1 \quad (1, \forall n)$$

$$r_n + r \geq n \Rightarrow 1/n \geq -r \xrightarrow{U} Dg = [-r, 1]$$

$$r(a+1)(v) = r_a - r + a \quad (2)$$

$$1ra + 1r = ra - r \rightarrow 1 \cdot a = -1 \quad a = -1, 1$$

$$\sqrt{r + \sqrt{r}} + \frac{1}{\sqrt{r + \sqrt{r}}} = \frac{1}{\sqrt{r - \sqrt{r}}} + \sqrt{r - \sqrt{r}} \quad (6)$$

$$\left(\sqrt{a} + \frac{1}{\sqrt{a}} \right)^r = a + \frac{1}{a} + r \quad (7)$$

$$r \left(r + \sqrt{r} + \frac{1}{r - \sqrt{r}} \right) \Rightarrow r\sqrt{r} + r \quad \checkmark$$

آذین

$$r f(n) - r f(-n) = r n^r - n \quad (1)$$

$$r f(-n) - r f(n) = r n^r + n \quad (2)$$

$$r f(n) - \cancel{r f(-n)} = r n^r - n$$

$$+ \cancel{r f(-n)} - r f(n) = r n^r + n$$

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

$$n = 1 \rightarrow r f(1) = r m - 1 \quad (3)$$

$$n = -1 \rightarrow r f(-1) = 1 + r m$$

$$r f(1) = r m - 1$$

$$r f(-1) = 1 + r m$$

$$0 = r m - 1 \Rightarrow m = \frac{1}{r} \Rightarrow r f(1) = 1 - \frac{1}{r}$$

$$f(1) = \frac{1}{r} - \frac{1}{r^2} \quad \checkmark$$

Viana

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(2) (1)

$$an + b + \frac{a}{n} + b = \frac{\mu n^r - 1\mu n + \mu}{n}$$

$$an + \frac{a}{n} + \mu b \Rightarrow \frac{an^r + a}{n} + \mu b$$

$$\frac{an^r + \mu b n + a}{n} = \frac{\mu n^r - 1\mu n + \mu}{n}$$

$$a = \mu \checkmark \quad b = -1 \checkmark \quad + (-1) = \mu - 1 = -9 \checkmark$$