

الف) $\frac{(n-1)^2 - n^2}{n(n-1)} \geq 0$ $\frac{-2n+1}{n(n-1)} \geq 0$ $-2n+1=0 \rightarrow n=\frac{1}{2}$ $D_f = (-\infty, \frac{1}{2}) \cup [\frac{1}{2}, 1)$

ب) $\frac{n-2n-2}{n(n+1)} = \frac{-n-2}{n(n+1)}$ $n \neq 0, -1, \frac{-5}{2}, 1, 2$ $D_f = \mathbb{R} - \{0, -1, \frac{-5}{2}, 1, 2\}$

الف) $n = -2 \pm \frac{0}{2}$ $D_f = (-\infty, -2) \cup [2, +\infty)$

ب) $n-1 \geq 0 \rightarrow n \geq 1$ $n - \sqrt{n-1} \geq 0 \rightarrow n \geq \sqrt{n-1} \rightarrow |n| \geq n-1 \rightarrow n \leq 1$

$D_f = [1, 1]$

$n^2 - 1 \geq 0$ $n^2 \geq 1$ $n \geq 1, n \leq -1$ $D_f = (-\infty, -1) \cup (1, +\infty)$

$n^2 - n - 2 \geq 0$ $(n-2)(n+1) \geq 0$ $n \leq -1$ $n \geq 2$

$-n^2 + an + b \geq 0$ $-(n-b)(n+2) = -n^2 - (2-b)n + 2b$

$2b = 2 \rightarrow b = 1$ $2-b = a \rightarrow a = -1$ $a+b = -\frac{1}{2} + 1 = \frac{1}{2}$

$n \geq 1 \rightarrow n-2 \geq n \rightarrow 2n \geq 2 \rightarrow n \geq 1$ $D_f = [-3, \infty)$

$n < 1 \rightarrow n+2 \geq n \rightarrow n \geq -2 \rightarrow -2 \leq n < 1$

$$\frac{\sqrt{r}}{r} + 1$$

$$r\left(\frac{r}{r} + 1 + \sqrt{r}\right) - r\left(\frac{\sqrt{r}}{r} + 1\right) = \frac{r}{r} + r + r\sqrt{r} - r\sqrt{r} - r = -\frac{1}{r}$$

f

$$a \neq 1$$

$$\epsilon = \frac{a+1}{a-1} \neq 1$$

$$a+1 \neq a-1$$

$$\frac{a+1}{a-1} + 1$$

$$\frac{a+1}{a-1} - 1 = \epsilon \rightarrow t+1 = at - a$$

$$(a-1)t - a - 1 = 0 \quad \checkmark$$

$$\epsilon = \frac{a+1}{a-1}$$

$$a \in \mathbb{R} \setminus \{1\}$$

y

$$f(\sqrt{a^r-1}) = a^r-1 - r\sqrt{a^r-1} = -\epsilon \rightarrow a^r-1 - \epsilon\sqrt{a^r-1} + \epsilon = 0$$

$$(\sqrt{a^r-1} - r)^r = 0$$

$$a^r-1 = \epsilon \rightarrow a^r = 0 \rightarrow a = \pm\sqrt{0}$$

λ

$$\left(\frac{1-a+y}{r}\right) \left(\frac{ry+y_0+y}{r^2}\right) = 1 \epsilon \epsilon$$

q

$$\epsilon \cos^r u + a \cos u = r_1 \omega \rightarrow \epsilon \cos^r u + a \cos u - r_1 \omega = 0 \rightarrow \cos^r u + a \cos u - 1 \epsilon = 0$$

$$\cos u = \frac{1}{r} \rightarrow 90^\circ \leq 180^\circ$$

$$\tan^r u$$

$$(\cos u + v)(\cos u - r) = 0$$

$$\rightarrow -\frac{v}{\epsilon} \times$$

$$\rightarrow \frac{r}{\epsilon} = \frac{1}{r} \quad \checkmark$$

1.