

$$t_n = r^n n^{r-1} \quad t_1 = r \times (1)^{r-1} = r \quad t_r = r \times (r)^{r-1} = r^r$$

$$r, 1, r, r, r, \dots \quad t_r = r \times (r)^{r-1} = r^r \quad t_{r+1} = r \times (r+1)^{r-1} = r(r+1)^{r-1}$$

$$\rightarrow t_n = \frac{r^{n+1}}{n+\varepsilon} \Rightarrow t_1 = \frac{r(1)+1}{1+\varepsilon} = \frac{r}{\varepsilon} \quad t_r = \frac{r \times r + 1}{r+\varepsilon} = \frac{r}{\varepsilon}$$

$$\frac{r}{\varepsilon}, \frac{r}{\varepsilon}, \frac{r}{\varepsilon}, \dots \quad t_r = \frac{r \times r + 1}{r+\varepsilon} = \frac{r}{\varepsilon} = 1, \quad t_{r+1} = \frac{r \times r + 1}{r+\varepsilon} = \frac{r}{\varepsilon}$$

$$t_a = \frac{r \times a + 1}{a+\varepsilon} = \frac{1}{a}$$

$$a) t_n = \frac{(n-1)^n}{\sqrt{n+\varepsilon}} \Rightarrow t_r = \frac{(r-1)^r}{\sqrt{r}} = \frac{r-1}{r} = 1 - \frac{1}{r}$$

$$\rightarrow t_n = r^n - \left[\frac{r^n}{\varepsilon} \right] \Rightarrow t_r = r \times r - \left[\frac{r^r}{\varepsilon} \right] = r^r - \left[\frac{r^r}{\varepsilon} \right]$$

$$r^r - r^r = 0$$

$$\boxed{r^r}$$

$$t_n = r^n - 1 \Rightarrow r^n - 1 < 0 \rightarrow r^n < 1 \rightarrow n < 1$$

$$n = 1, r, r, r, \dots \Rightarrow 1 \leq n < 1 \Rightarrow \text{false}$$

$$\rightarrow t_n = r^n - 1 \leq n + \varepsilon \Rightarrow r^n - 1 \leq n + \varepsilon \rightarrow (n-1)(n-\varepsilon) < 0$$

$$\frac{\varepsilon}{r-1} < n < 1 \Rightarrow 0 < n < 1 \Rightarrow n < 1$$

$$a) t_n = r^n - 1 \Rightarrow r^n - 1 \leq 0 \rightarrow r^n \leq 1 \Rightarrow n \leq 1$$

$$1 \leq n \leq 1 \rightarrow 1, r, r, \dots \Rightarrow \text{false}$$

$$\rightarrow t_n = r^n - 1 \leq n + \varepsilon \Rightarrow r^n - 1 \leq n + \varepsilon \rightarrow (n-1)(n-\varepsilon) \leq 0$$

$$\frac{\varepsilon}{r-1} \leq n \leq 1 \Rightarrow 0 \leq n \leq 1 \Rightarrow n \leq 1$$

$$t_n = an + b$$

$$t_1 = a + b = 1$$

$$t_1 = a + b = 1$$

$$t_2 = 2a + b = 5$$

$$a = 1 \Rightarrow a = 1, b = -1$$

$$n = \frac{-b}{a} = 1 \Rightarrow t_1 = a - 1a + 1 = 1$$

$$t_1 = 1 + 1 = 2$$

$$t_n = \frac{1}{n} \Rightarrow \frac{1}{n} = \frac{1}{n} \Rightarrow \frac{1}{n} = \frac{1}{n}$$

$$t_1 = 1 \times 1 + b \times 1 + c = -1$$

$$a = \frac{1}{1} = 1 \quad | \quad b = 1 \Rightarrow t_1 = 1 \times 1 + 1 \times b + 1 = -1$$

$$t_1 = 1 \times 1 + -1 \times 1 + 1 = 1$$

$$t_n = -1, 1, 1, 1, \dots$$

$$t_n = an + b + c$$

$$c = -1 \Rightarrow 1 \times 1 + b \times 1 + c = -1$$

$$t_n = 1n + 1n - 1$$

$$(-\infty, a+\varepsilon] \cap [2a+1, +\infty) = [2a+1, a+\varepsilon]$$

$$a+\varepsilon \leq 2a+1$$

$$\boxed{\varepsilon \leq a}$$

یا باید استرکس نداشته باشند و همی شود
و یا باید برابر شوند تا یک مجموعه در یک مجموعه
شود

اگر $\varepsilon = a$ [۷]
اگر $\varepsilon < a$

الف) $2, 4, 6, \dots, 99$
 $t_1 = 2, d = 2$

$$t_n = t_1 + (n-1)d \Rightarrow d = 2, t_1 = 2 \Rightarrow t_n = 2n$$

$$t_n = 99 = 2n \Rightarrow \boxed{n = 33} \text{ ت}$$

ب) $1, 3, 5, \dots, 100$
 $t_1 = 1, d = 2$

$$d = 2, t_1 = 1$$

$$t_n = 100 = 1 + (n-1)2 \Rightarrow 100 = 1 + 2n - 2 \Rightarrow 100 = 2n - 1 \Rightarrow 101 = 2n \Rightarrow n = 50.5$$

$$\boxed{n = 50} \text{ ت}$$

ج) $1, 3, 5, \dots, 99$
 $t_1 = 1, d = 2$

$$t_1 = 1, d = 2$$

$$t_n = 99 = 1 + (n-1)2 \Rightarrow 99 = 1 + 2n - 2 \Rightarrow 99 = 2n - 1 \Rightarrow 100 = 2n \Rightarrow n = 50$$

$$n = 50$$

$$n(A \cup B) = n(A) + n(B) - n(A \cap B) =$$

$$33 + 20 - 4 = 49$$