

$$\left. \begin{aligned} t_{10} &= a + 9d \\ t_v &= a + 4d \\ t_{10} - t_v &= 11r \end{aligned} \right\} \begin{aligned} a + 9d - a - 4d &= 11r \\ \Rightarrow 5d &= 11r \Rightarrow d = r \\ \Rightarrow t_9 - t_1 &= a + 5d - a = 5 \times r = 10 \end{aligned}$$



4

$$\left. \begin{aligned} a_f &= 1 \\ a_f &= 1 \end{aligned} \right\} \Rightarrow a_f - a_f = 1 = 1 + 1 - 1 - 1 = 1 \Rightarrow d = f \quad \left. \begin{aligned} a_1 &= b_1 = 1 \end{aligned} \right\} \Rightarrow b_1 - b_1 + d = 1 = 1 + 1 - 1 - 1 = 1 \Rightarrow d = 1$$

9

7

$$t_n = \frac{r_{n-1}}{r_{n+1}} \quad \rightarrow \quad \frac{r_{n-1}}{r_{n+1}} < \frac{r}{r} \Rightarrow \Delta n - 1 < 4n + 9$$

3

C_{60}H_8

$\angle$

$$t_h = \begin{pmatrix} 4 & 9 & 9 & 4 \\ 9 & 9 & 9 & 9 \\ 9 & 9 & 9 & 9 \\ 4 & 9 & 9 & 4 \end{pmatrix} A = \begin{pmatrix} 4 & 9 & 9 & 4 \\ 9 & 9 & 9 & 9 \\ 9 & 9 & 9 & 9 \\ 4 & 9 & 9 & 4 \end{pmatrix} \begin{cases} -\frac{4}{9} + B = 4 \\ -\frac{4}{9} + B = 9 \\ -\frac{4}{9} + B = 9 \\ -\frac{4}{9} + B = 4 \end{cases}$$

9

$$t_n = -\underbrace{y}_y - \underbrace{r}_r \underbrace{1}_1 \underbrace{0}_0 \dots$$

$$a = \frac{p}{r} = 1 \Rightarrow n^y + b n^r + c = t_n$$

$$\begin{cases} 1 + b + c = -y \\ r + yb + c = -r \end{cases} \Rightarrow \begin{cases} r + b = r \Rightarrow b = -1 \\ \Rightarrow c = -y \end{cases}$$

$$\Rightarrow C = -4$$

$\rho_1 \sqrt{a}$

10

$$\left. \begin{aligned} a_1 &= r_1 \\ a_2 &= r_2 \end{aligned} \right\} a_1 + d - a_1 - d = 10 \Rightarrow d = a \Rightarrow a_1 = r_1$$

Gibbe's Law

$$a_1 - r_1, r_1, \boxed{r_1}, r_1, r_1, \dots$$

Gibbe's Law

$$a_1 + r_1 = n - n - r_1$$

$$n - r_1 - r_1 - r_1 = 0$$

$$20n + 17 = n^2 - n - 4$$

3
1
4
2
-
2
7
4
0

$t_n = -\frac{1}{2}, -\frac{1}{4}, \dots, 1, \dots$

$$n = -1^x \quad x$$
$$n = 9 \quad 1$$
$$n = 9 \rightarrow 0'_{10} n_3 = 2(9) + (-1) = 97$$