

3.72
p1

$$T_0 = 1, T_1 = \frac{n}{2}, T_2 = \frac{n(n-1)}{2} \cdot \frac{1}{4}$$

$$2T_1 = T_0 + T_2$$

$$n = 1 + \frac{n^2 - n}{8} \rightarrow n^2 - 9n + 8 = 0$$

$$\begin{matrix} n_1 = 1 \\ n_2 = 8 \end{matrix}$$

$$T_{k+1} = \binom{8}{k} x^{8-k} \left(\frac{1}{2} x^{-\frac{1}{4}}\right)^k$$

$$x^3: 8 - k - \frac{1}{4}k = 3 \rightarrow \boxed{k=4}$$

$$T_5 = \binom{8}{4} \left(\frac{1}{2}\right)^4 x^3 = \frac{35}{8} x^3$$