

3.90  
E2

$$T_3 = 35 + T_2$$

$$\binom{n}{2} = 35 + \binom{n}{1}$$

$$\frac{n(n-1)}{2} = 35 + n \rightarrow$$

$$n^2 - 3n - 70 = 0$$

$$n = 10$$

$$n = -7$$

$$T_{k+1} = \binom{10}{k} \times \frac{10-k}{3} \times \frac{1}{2} x$$

$$a_{\frac{1}{2}} = \frac{10-k}{3} = \frac{1}{2} k$$

$$\frac{\sum k}{6} = \frac{5}{6} \rightarrow \boxed{k=1}$$

$$T_2 = 10x^{\frac{1}{2}} x$$