

4.12
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$$T_{k+1} = \binom{18}{k} \left(x^{\frac{2}{3}}\right)^{18-k} \left(-x^{\frac{1}{2}}\right)^k$$

$$x^{10} = 10 = 18 - \frac{2}{3}k + \frac{1}{2}k = \frac{10}{6}k \rightarrow 2 = \frac{1}{6}k \rightarrow \boxed{k=12}$$

$$T_{13} = \binom{18}{12} x^{10}$$