

2.59 p1 I $T_{k+1} = \binom{14}{k} (ax^{\frac{1}{2}})^{14-k} \left(-x^{-\frac{1}{3}}\right)^k \rightarrow \frac{1}{2}(14-k) - \frac{1}{3}k = 2 \rightarrow 5 = \frac{5k}{6} \rightarrow \boxed{k=6}$

$T_7 = T_{6+1} = \binom{14}{6} a^8 x^2$

II $(2\sqrt{x} - \frac{1}{\sqrt{x}})^{14} \xrightarrow{x=1} (2-1)^{14} = 1$ (jako $x=1$ \rightarrow $\frac{1}{\sqrt{1}}=1$ $x=1$ \rightarrow $\frac{1}{1}=1$ \cdot 2^{14} \cdot 1^{14})