

2.4d  
KS

$$1 \leq \frac{T_{k+1}}{T_k} = \frac{\binom{10}{k} 10^{-k} \sqrt{2}^k}{\binom{10}{k-1} 10^{-(k-1)} \sqrt{2}^{k-1}} = \frac{10!}{k!(10-k)!} \sqrt{2}^k \cdot \frac{(k-1)!(11-k)!}{10! \sqrt{2}^{k-1}} = \frac{11+k}{k} \sqrt{2}$$

$$k \leq (11-k) \sqrt{2}$$

$$k \leq \frac{11\sqrt{2}}{1+\sqrt{2}} = 6.44 \rightarrow |k=6|$$

$$T_7 = T_{6+1} = \binom{10}{6} 10^{-6} \sqrt{2}^6 = \binom{10}{6} 2^{-3} = 210 \cdot 8 = 1680$$