

2.44
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$$\frac{\binom{10}{k} 1^{10-k} \sqrt{2}^k}{\binom{10}{k-1} 1^{11-k} \sqrt{2}^{k-1}} = \frac{T_{k+1}}{T_k} \geq 1 \quad \text{נמשך כי } k \leq 6$$

$$\binom{10}{k} 2^{\frac{1}{2}k} \geq \binom{10}{k-1} 2^{\frac{k-1}{2}}$$

$$\frac{10!}{k!(10-k)!} 2^{\frac{k}{2}} \geq \frac{10!}{(k-1)!(11-k)!} 2^{\frac{k-1}{2}} \cdot 2^{-\frac{1}{2}}$$

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

$$11\sqrt{2} \geq k(1+\sqrt{2})$$

$$k \leq \frac{11\sqrt{2}}{1+\sqrt{2}} = \frac{11 \cdot 1.41}{1+1.41} = \frac{15.51}{2.41} = 6.43$$

$$T_7 = T_{6+1} = \binom{10}{6} 1^4 \sqrt{2}^6 = 210 \cdot 8 = 1680 \quad \text{סך הכל } 6=k \text{ יום}$$