

## Lösungen, EMK Aufgaben zum Thema, Wachstum!

1. 2013 - 2050 : 38 Jahre.

$$16'500 \text{ E.} \cdot 1,005^{38} \approx \underline{\underline{19'943 \text{ E.}}}$$

2. 2013 - 2020 : 8 Jahre.

$$30'000 \text{ Fr.} \cdot 1,015^8 \approx \underline{\underline{33'795 \text{ Fr.}}}$$

3. 2013 - 2050 : 38 Jahre.

$$\begin{aligned} 16'500 \text{ E.} \cdot x^{38} &= 22'158 \text{ E.} & | : 16'500 \text{ E.} \\ x^{38} &\approx 1,34 \text{ (speichern!)} & | \sqrt[38]{\phantom{x}} \\ x &\approx \underline{\underline{1,0078}} \end{aligned}$$

$$1,0078 = \underline{\underline{100,78\%}}$$

$$100,78\% - 100\% = \underline{\underline{0,78\%}}$$

4. 2013 - 2020 : 8 Jahre.

$$\begin{aligned} 30'000 \text{ Fr.} \cdot x^8 &= 35'661 \text{ Fr.} & | : 30'000 \text{ Fr.} \\ x^8 &= 1,1887 & | \sqrt[8]{\phantom{x}} \\ x &\approx \underline{\underline{1,0218}} \end{aligned}$$

$$1,0218 = \underline{\underline{102,18\%}}$$

$$102,18\% - 100\% = \underline{\underline{2,18\%}}$$

$$\begin{array}{lcl}
 \underline{5.} & 16'500 \text{ E.} \cdot 1,02^x = 80'445 \text{ E.} & | : 16'500 \text{ E.} \\
 & 1,02^x \hat{=} 4,88 \text{ (speichern!)} & | \log \\
 & \log 1,02^x \hat{=} \log 4,88 & | \swarrow \log \dots \textcircled{x} \\
 & x \cdot \log 1,02 \hat{=} \log 4,88 & | : \log 1,02 \\
 & x \hat{=} \frac{\log 4,88}{\log 1,02} \\
 & \hat{=} \underline{\underline{80}}
 \end{array}$$

$$\begin{array}{lcl}
 \underline{6.} & 30'000 \text{ Fr.} \cdot 1,0125^x = 63'215 \text{ Fr.} & | : 30'000 \text{ Fr.} \\
 & 1,0125^x \hat{=} 2,11 \text{ (speichern!)} & | \log \\
 & \log 1,0125^x \hat{=} \log 2,11 & | \swarrow \log \dots \textcircled{x} \\
 & x \cdot \log 1,0125 \hat{=} \log 2,11 & | : \log 1,0125 \\
 & x \hat{=} \frac{\log 2,11}{\log 1,0125} \\
 & \hat{=} \underline{\underline{60}}
 \end{array}$$