

$$1. \quad 30'000 \cdot x^5 = 32'320 \text{ } \frac{1}{2} \quad | : 30'000$$

$$x^5 = 1,077\bar{3} \quad | \sqrt[5]{}$$

$$x \hat{=} 1,015$$

$$(2) \quad = \underline{101,5\%} \uparrow$$

$$\Rightarrow 101,5\% - 100\% = \underline{\underline{1,5\%}} \text{ } \frac{1}{2}$$

$$2. \quad 10'000 \cdot 1,015^x = 15'000 \text{ } \frac{1}{2} \quad | : 10'000$$

$$1,015^x = 1,5 \quad | \log$$

$$x \cdot \log 1,015 = \log 1,5 \quad | : \log 1,015$$

$$(2) \quad x = \frac{\log 1,5}{\log 1,015}$$

$$\hat{=} \underline{27,23} \uparrow$$

$$\Rightarrow \text{zeitdauer: } \underline{\underline{27 \text{ Jahre } 3 \text{ Monate}}} \frac{1}{2}$$

$$3. \quad 80'000 \cdot x^{25} = 125'000 \text{ } \frac{1}{2} \quad | : 80'000$$

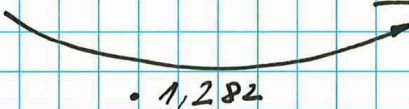
$$x^{25} = 1,5625 \quad | \sqrt[25]{}$$

$$x \hat{=} 1,018$$

$$(2) \quad = \underline{101,8\%} \uparrow$$

$$\Rightarrow 101,8\% - 100\% = \underline{\underline{1,8\%}} \frac{1}{2}$$

$$4. \quad 1 \text{ K.} \cdot 1,0125^{20} \hat{=} \underline{1,282 \text{ K.}} \uparrow$$



$$(2) \quad \Rightarrow 128,2\% - 100\% = \underline{\underline{28,2\%}} \uparrow$$

$$\begin{aligned}
 5. \quad 1K \cdot X^{30} &= 1,4 \cdot K \text{ \textcircled{L}} & | : 1K \\
 X^{30} &= 1,4 & | \sqrt[30]{} \\
 \underline{X \hat{=} 1,011 \text{ \textcircled{L}}}
 \end{aligned}$$

$$\begin{aligned}
 \textcircled{2} \quad \Rightarrow 1K \cdot X^{15} &\hat{=} \underline{1,183 K. \text{ \textcircled{L}}} \\
 &\quad \cdot 1,183
 \end{aligned}$$

$$\Rightarrow 118,3\% - 100\% = \underline{\underline{18,3\% \text{ \textcircled{L}}}}$$

$$\begin{aligned}
 6. \quad X \cdot 1,015^{16} &= 20'000 \text{ \textcircled{L}} & | : 1,015^{16} \\
 X &= \frac{20'000}{1,015^{16}}
 \end{aligned}$$

$$\textcircled{2} \quad \hat{=} \underline{15'761 \text{ \textcircled{L}}}$$

$$\Rightarrow \text{Guthaben: } \underline{\underline{15'761 \text{ Fr. \textcircled{L}}}}$$

$$\begin{aligned}
 7. \quad 1E \cdot 0,977^x &= 0,5 E. \text{ \textcircled{L}} & | : 1E \\
 0,977^x &= 0,5 & | \log \\
 x \cdot \log 0,977 &= \log 0,5 & | : \log 0,977 \\
 \textcircled{2} \quad x &= \frac{\log 0,5}{\log 0,977} \\
 &\hat{=} \underline{29,79 \text{ \textcircled{L}}}
 \end{aligned}$$

$$\Rightarrow \text{zeit: } \underline{\underline{29 \text{ Jahre } 9 \text{ Monate \textcircled{L}}}}$$

$$\begin{aligned}
 8. \quad 7'000 \cdot \frac{p}{100} &= 12'000 \cdot \frac{p-1}{100} \text{ \textcircled{L}} & | \cdot 100 \\
 7'000 p &= 12'000 p - 12'000 & | -7'000 p \quad | + 12'000 \\
 \textcircled{2} \quad 12'000 &= 5'000 p & | : 5'000
 \end{aligned}$$

$$\begin{aligned}
 &\underline{2,4 = p \text{ \textcircled{L}}} \\
 \Rightarrow p\% &= \underline{\underline{2,4\% \text{ \textcircled{L}}}}
 \end{aligned}$$

16 Punkte