

$$\begin{aligned}
 a) \quad C_M &= 10\,000 (1 + 0,0075)^M \\
 &= 10\,000 \cdot 1,0075^M \approx 10\,856,64
 \end{aligned}$$

$$\begin{aligned}
 b) \quad C_8 &= 1665,85 = C_0 \cdot (1 + 0,08)^8 = C_0 \cdot 1,08^8 \\
 \Leftrightarrow 1665,85 &\approx 1,851 \cdot C_0 \quad \Leftrightarrow C_0 = \frac{1665,85}{1,851} \\
 \Leftrightarrow C_0 &\approx 900,00692 \approx 900
 \end{aligned}$$

$$\begin{aligned}
 c) \quad C_{40} &= 20\,000 = 2350 \cdot (1 + i)^{40} \\
 \Leftrightarrow \frac{20\,000}{2350} &= (1 + i)^{40} \quad \Leftrightarrow 8,51063 \approx (1 + i)^{40} \\
 \Leftrightarrow \sqrt[40]{8,51063} &\approx 1 + i \quad \Leftrightarrow 1,055 \approx 1 + i \\
 \Leftrightarrow 0,055 &\approx i \quad \text{Le taux est d'environ } 5,5\%
 \end{aligned}$$

$$\begin{aligned}
 d) \quad 5812,4 &\approx 4720 \cdot (1,0175)^n \\
 1,2314 &\approx 1,0175^n \quad \Leftrightarrow n = \log_{1,0175} 1,2314 \\
 &\approx 12
 \end{aligned}$$