

$$a) A = K q_1^m \frac{1 - q_1}{1 - q_1^m} = \dots \approx 874,88 e$$

$$b) V_{30} = K q_1^{30} - A \cdot \frac{1 - q_1^{30}}{1 - q_1} = \dots = 89574,92 e$$

$$c) K = V_{30}, m = 144 - 30 = 114$$

$$A = K q_2^m \cdot \frac{1 - q_2}{1 - q_2^m} = \dots = \underline{924,12 e}$$

$$d) K = V_{30}, A \approx 874,88 e \quad | q = q_2, m = ?$$

$$A = K q_2^m \cdot \frac{1 - q_2}{1 - q_2^m}$$

$$\text{Set } x = q_2^m : \quad A = K x \cdot \frac{1 - q}{1 - x} \quad | (1 - x)$$

$$\Leftrightarrow A(1 - x) = Kx(1 - q)$$

$$\Leftrightarrow A - Ax = Kx(1 - q)$$

$$\Leftrightarrow A = Ax + Kx(1 - q)$$

$$\Leftrightarrow A = x(A + K(1 - q)) \quad | : ()$$

$$\Leftrightarrow x = \frac{A}{A + K(1 - q)} = \dots$$

$$x = q_2^m \quad | \lg \quad \Leftrightarrow \lg x = \overbrace{\lg q_2^m}^m = m \lg q_2$$

$$\Leftrightarrow m = \frac{\lg x}{\lg q_2} = \dots = 121,69$$

\Rightarrow keine ganze Potenz: $\Delta m = 121,69 - 114 = 7,69 \Rightarrow$ 8 Kumbante

Kontante

$$a^m = \underbrace{a \cdot a \cdot \dots \cdot a}_m$$

$$a^0 = 1$$

$$a^{-m} = \frac{1}{a^m} = \left(\frac{1}{a}\right)^m$$

$$a^{\frac{m}{k}} = \sqrt[k]{a^m} = \left(\sqrt[k]{a}\right)^m$$

\uparrow
potenzieren / korotieren

\uparrow
jüngerer / alter