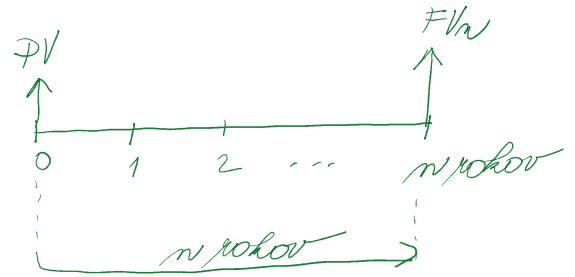


ZLOŽENÉ ÚROKOVANIE  
POČET KONVERZIÍ  $m=1$

$$FV_n = PV (1+i)^n$$

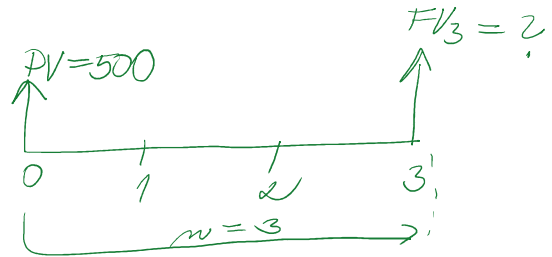


ÚROČENIE

PR 1

$$\begin{aligned} PV &= 500 \\ i &= 0,036 \\ n &= 3 \quad m=1 \\ \underline{FV_3 = ?} \end{aligned}$$

$$\begin{aligned} FV_n &= PV(1+i)^n \\ FV_3 &= 500(1+0,036)^3 = \underline{555,967} \end{aligned}$$



PR 2

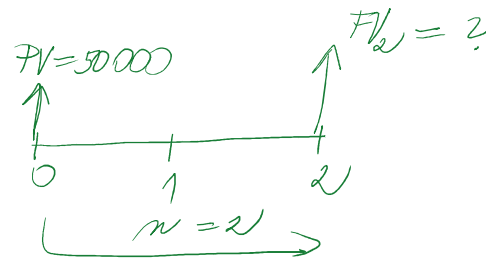
$$\begin{aligned} PV &= 50\,000 \\ FV &= 65\,000 \\ i &= 0,08 \\ n &= 2 \quad m=1 \\ \underline{FV_2 = ?} \end{aligned}$$

$$\begin{aligned} FV_n &= PV(1+i)^n \\ FV_2 &= 50\,000(1+0,08)^2 = 58\,320 \end{aligned}$$

$$FV_2 < FV$$

$$58\,320 < 65\,000$$

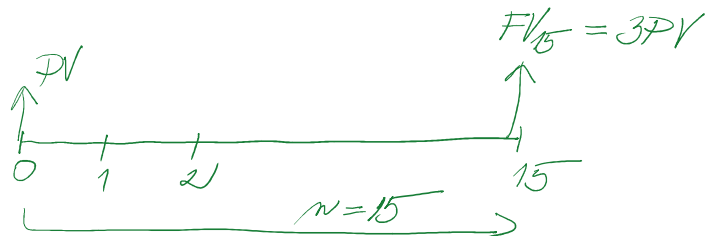
JE VÝHODNEJŠIE KÚPIŤ NEHNUTEĽNOSŤ



PR 3

$$\begin{aligned} FV_{15} &= 3PV \\ n &= 15 \end{aligned}$$

$$\begin{aligned} i &= ? \\ FV_n &= PV(1+i)^n \\ 3PV &= PV(1+i)^{15} \quad | \cdot \frac{1}{PV} \\ 3 &= (1+i)^{15} \quad | \sqrt[15]{\phantom{x}} \\ 1+i &= \sqrt[15]{3} \quad | -1 \end{aligned}$$



$$i = \sqrt[15]{3} - 1$$

$$\underline{i = 0,076}$$

$$FV_n = 2PV$$

PR4

$$FV_n = 2PV$$

$$i = 0,05 \quad m = 1$$

$$n = 2$$

$$FV_n = PV(1+i)^n$$

$$2PV = PV(1+0,05)^n \quad | : PV$$

$$2 = 1,05^n \quad | \ln(\ )$$

$$\ln 2 = \ln 1,05^n$$

$$\ln 2 = n \ln 1,05 \quad | \frac{1}{\ln 1,05}$$

$$n = \frac{\ln 2}{\ln 1,05}$$

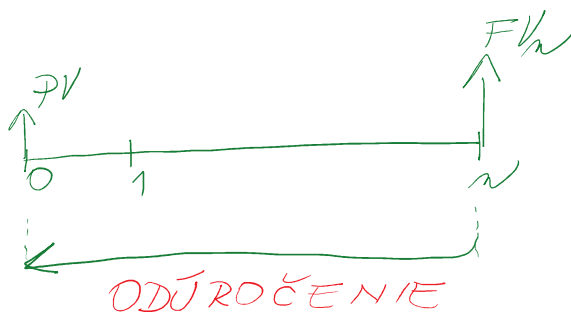
$$n = 14,2$$



$$\log_a x^y = y \log_a x$$

$$\ln x^y = y \ln x$$

$$PV = \frac{FV_n}{(1+i)^n}$$



PR5

$$FV_6 = 80\,000$$

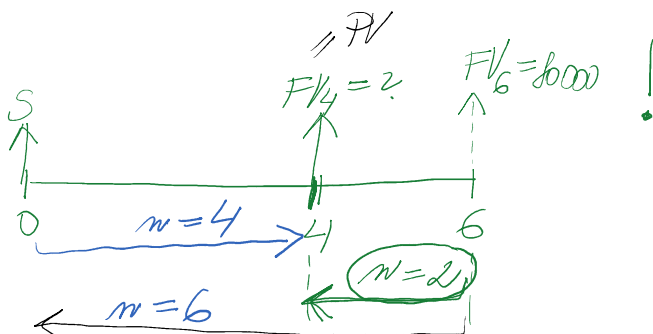
$$i = 0,08$$

$$n = 2 \quad m = 1$$

$$FV_4 = ?$$

$$PV = \frac{FV_n}{(1+i)^n}$$

$$\frac{FV_6}{(1+i)^2} = FV_4 = \frac{80\,000}{(1+0,08)^2} = 68\,587,106$$

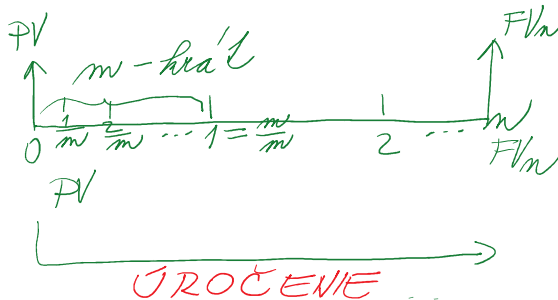


$$PV = \frac{FV_6}{(1+i)^6} \quad \checkmark$$

$$FV_4 = PV \cdot (1+i)^4$$

POČET KONVERZIÍ  $m > 1$

$$FV_n = PV \left(1 + \frac{i}{m}\right)^{m \cdot n}$$



PR 6

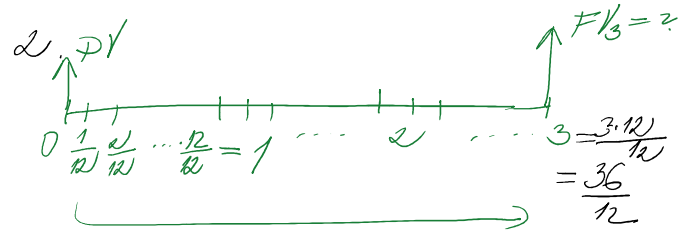
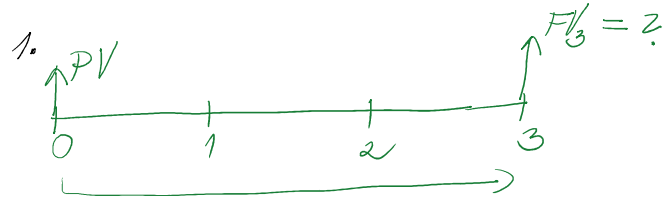
$$\begin{aligned}
 1. \quad & PV = 1000 \\
 & i = 0,05 \\
 & n = 3 \\
 & m = 1 \\
 \hline
 & FV_3 = ?
 \end{aligned}$$

$$\begin{aligned}
 2. \quad & PV = 1000 \\
 & j = 0,05 \\
 & n = 3 \\
 & m = 12 \\
 \hline
 & FV_3 = ?
 \end{aligned}$$

$$\begin{aligned}
 1. \quad & FV_n = PV(1+i)^n \\
 & FV_3 = 1000(1+0,05)^3 \\
 & FV_3 = 1157,625
 \end{aligned}$$

$$\begin{aligned}
 2. \quad & FV_n = PV \left(1 + \frac{j}{m}\right)^{m \cdot n} \\
 & FV_3 = 1000 \left(1 + \frac{0,05}{12}\right)^{12 \cdot 3} \\
 & FV_3 = 1161,472
 \end{aligned}$$

$$PV = \frac{FV_n}{\left(1 + \frac{j}{m}\right)^{m \cdot n}}$$



ODÚROČENIE

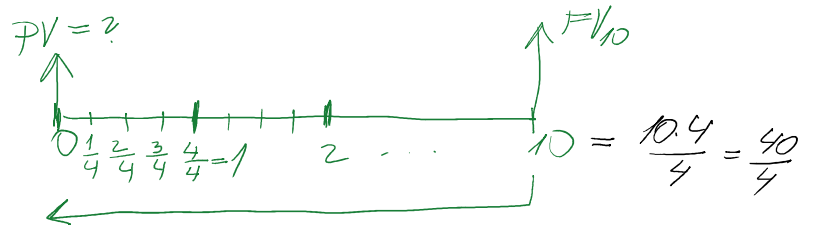
PR 7

$$\begin{aligned}
 FV_{10} &= 50\,000 \\
 j &= 0,05 \\
 n &= 10 \\
 m &= 4 \\
 \hline
 PV &= ?
 \end{aligned}$$

$$PV = \frac{FV_n}{\left(1 + \frac{j}{m}\right)^{m \cdot n}}$$

$$PV = \frac{50\,000}{\left(1 + \frac{0,05}{4}\right)^{4 \cdot 10}}$$

$$PV = 30\,429,67$$



PR 8

$$\begin{aligned}
 FV_4 &= 10\,510,1109 \\
 PV &= 8\,000 \\
 n &= 4 \\
 m &= 12 \\
 \hline
 j &= ?
 \end{aligned}$$



$$FV_n = PV \left(1 + \frac{j}{m}\right)^{m \cdot n}$$

$$10580,1109 = 8000 \left(1 + \frac{j}{12}\right)^{12 \cdot 7} \quad | \cdot \frac{1}{8000}$$

$$\frac{10580,1109}{8000} = \left(1 + \frac{j}{12}\right)^{84} \quad | \sqrt[84]{\phantom{x}}$$

$$1 + \frac{j}{12} = \sqrt[84]{\frac{10580,1109}{8000}} \quad | - 1$$

$$\frac{j}{12} = \sqrt[84]{\frac{10580,1109}{8000}} - 1 \quad | \cdot 12$$

$$j = \left(\sqrt[84]{\frac{10580,1109}{8000}} - 1\right) \cdot 12$$

$$j = 0,04$$

$$j \cdot 100\% = 4\%$$

PR 9

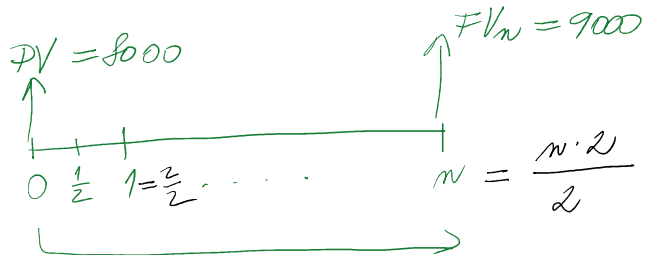
$$PV = 8000$$

$$m = 2$$

$$j = 0,05$$

$$FV_n = 9000$$

~~$$m = \frac{1}{2}$$~~



$$n = ?$$

$$FV_n = PV \left(1 + \frac{j}{m}\right)^{m \cdot n}$$

$$9000 = 8000 \left(1 + \frac{0,05}{2}\right)^{2n} \quad | : 8000$$

$$\frac{9}{8} = \left(1 + \frac{0,05}{2}\right)^{2n} \quad | \ln(\phantom{x})$$

$$\ln \left(1 + \frac{0,05}{2}\right)^{2n} = \ln \frac{9}{8}$$

$$! \quad \boxed{2n \cdot \ln 1,025} = \ln \frac{9}{8} \quad | \cdot \frac{1}{2 \ln 1,025}$$

$$n = \frac{\ln \frac{9}{8}}{2 \ln 1,025}$$

$$n = 2,38 \text{ roka}$$

$$m = 1$$

$$FV_n = PV \left(1 + \frac{j}{m}\right)^{m \cdot n}$$

$$= PV (1 + i)^n$$

$$\log_{10} X = \log X$$

$$a = 10$$