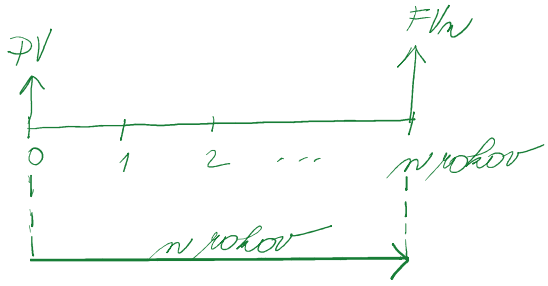
Zložené úrokovanie

streda 25. februára 2026 10:00

ZLOŽENÉ ÚROKOVANIE

POČET KONVERZIÍ $m = 1$

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

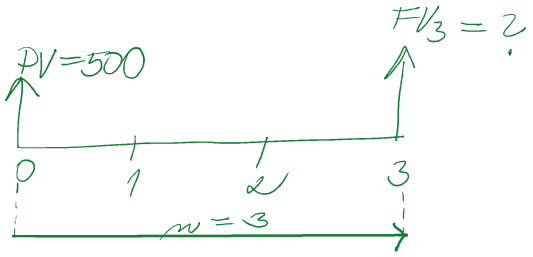


ÚROČENIE

PR 1

$PV = 500$
$i = 0{,}036$
$n = 3$ $\quad m = 1$
$FV_3 = ?$

$$FV_n = PV\,(1+i)^n$$
$$FV_3 = 500\,(1+0{,}036)^3 = 555{,}967;$$

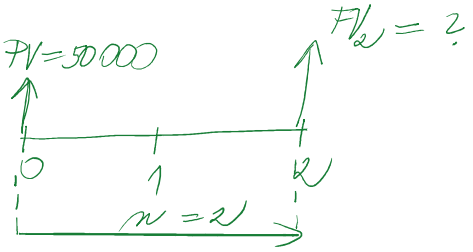


PR 2

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

$$FV_n = PV\,(1+i)^n$$
$$FV_2 = 50\,000\,(1+0{,}08)^2 = 58\,320$$
$$FV_2 < FV$$
$$58\,320 < 65\,000$$

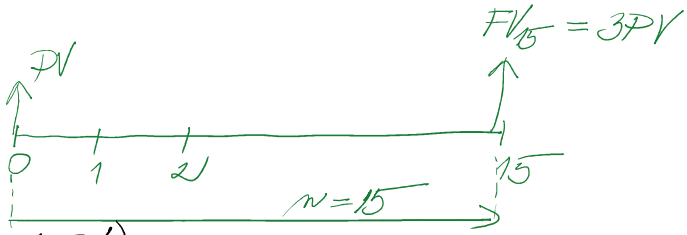
JE VÝHODNEJŠIE KÚPIŤ NEHNUTEĽNOSŤ



PR 3

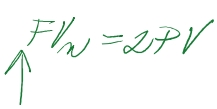
$FV_{15} = 3PV$
$n = 15$ $\quad m = 1$
$i = ?$

$$FV_n = PV\,(1+i)^n$$
$$3PV = PV\,(1+i)^{15} \quad / \cdot \frac{1}{PV} \quad (:PV)$$
$$3 = (1+i)^{15} \quad / \sqrt[15]{\ }$$
$$1+i = \sqrt[15]{3} \quad / -1$$
$$i = \sqrt[15]{3} - 1$$
$$i = 0{,}076;$$

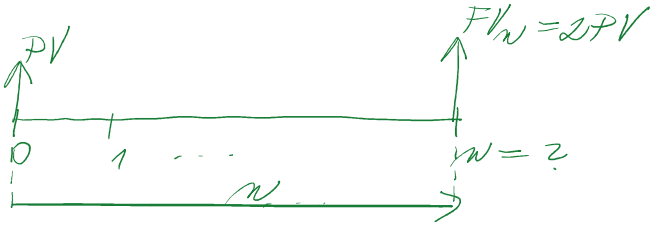


PR 4

$FV_n = 2PV$



PR4 $FV_n = 2PV$, $i = 0{,}05$, $m = 1$, $n = ?$



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

$2PV = PV(1+0{,}05)^n \quad / \cdot \frac{1}{PV}$

$2 = 1{,}05^n \quad / \ln(\,)$

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

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

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

$n = 14{,}2$

$b = a \cdot x \quad / : a$

$x = \frac{b}{a}$

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

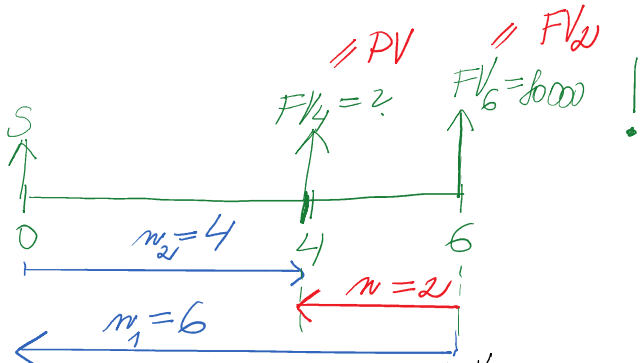
$\ln x^y = y \ln x$

AK $a = e$

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

ODÚROČENIE

PR5 $FV_6 = 80\,000$, $i = 0{,}08$, $n = 2$, $m = 1$, $FV_4 = ?$



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

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

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

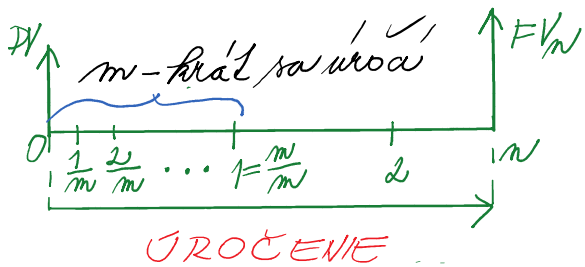
$FV_4 = PV \cdot (1+i)^4$

$FV_4 = \frac{FV_6}{(1+i)^6} \cdot (1+i)^4$

$FV_4 = \frac{FV_6}{(1+i)^2}$

POČET KONVERZIÍ $m > 1$

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



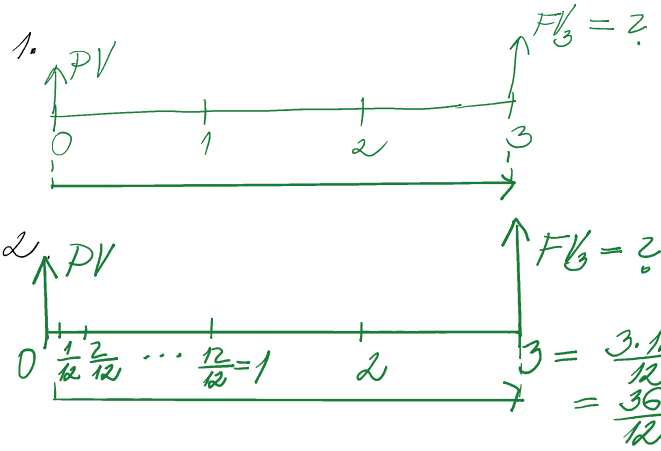
ÚROČENIE

$FV_3 = ?$

PR 6

1. $PV = 1000$, $i = 0{,}05$, $n = 3$, $m = 1$ — $FV_3 = ?$

2. $PV = 1000$, $j = 0{,}05$, $n = 3$, $m = 12$ — $FV_3 = ?$



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

$FV_3 = 1000(1+0{,}05)^3$

$FV_3 = 1157{,}625$

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

$FV_3 = 1000\left(1+\frac{0{,}05}{12}\right)^{12\cdot 3}$

$FV_3 = 1161{,}472$

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

ODÚROČENIE

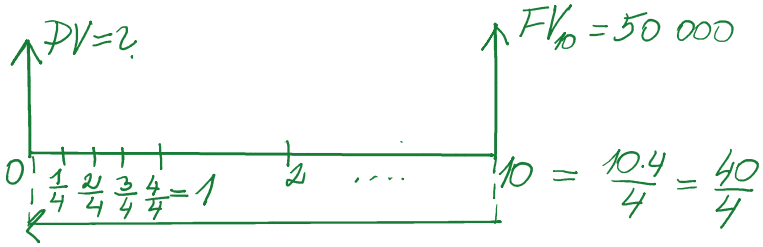
PR 7

$FV_{10} = 50\,000$, $j = 0{,}05$, $n = 10$, $m = 4$ — $PV = ?$

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

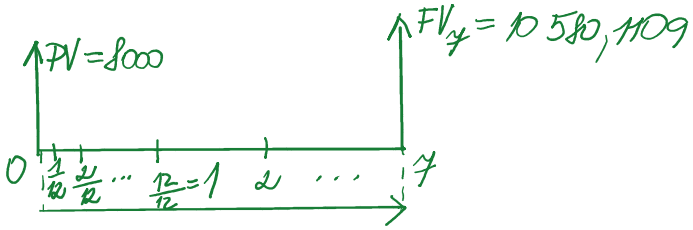
$PV = \frac{50\,000}{\left(1+\frac{0{,}05}{4}\right)^{4\cdot 10}}$

$PV = 30\,420{,}67$



PR 8

$FV_4 = 10\,580{,}1109$, $PV = 8000$, $n = 4$, $m = 12$ — $j = ?$



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

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

$$10\,580{,}1109 = 8000\left(1+\frac{j}{12}\right)^{12\cdot 7} \quad /\cdot\frac{1}{8000}$$

$$\frac{10\,580{,}1109}{8000} = \left(1+\frac{j}{12}\right)^{84} \quad /\sqrt[84]{\ }$$

$$1+\frac{j}{12} = \sqrt[84]{\frac{10\,580{,}1109}{8000}} \quad /-1$$

$$\frac{j}{12} = \sqrt[84]{\frac{10\,580{,}1109}{8000}} - 1 \quad /\cdot 12$$

$$j = \left(\sqrt[84]{\frac{10\,580{,}1109}{8000}} - 1\right)\cdot 12$$

$$j = 0{,}04$$

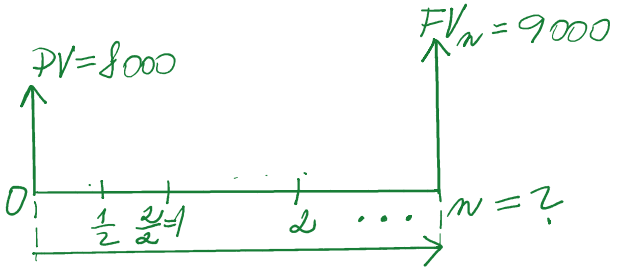
$$j\cdot 100\% = 4\%$$

PR9

$PV = 8000$
$m = 2$
$j = 0{,}05$
$FV_n = 9000$

$n = ?$

$m \neq \frac{1}{2}$



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

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

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

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

$$2n\cdot\ln 1{,}025 = \ln\frac{9}{8} \quad /\cdot\frac{1}{2\ln 1025}$$

LINEARNA RAVNICA

$$n = \frac{\ln\frac{9}{8}}{2\ln 1025}$$

$n = 2{,}35$ roka

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

$\log_e X = \ln X$
$a = e$