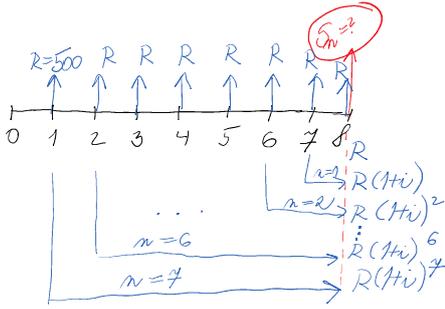


PR1: BUDÚCA HODNOTA RENTY S_n



$$R = 500$$

$$i = 9\% \quad \mu = 1$$

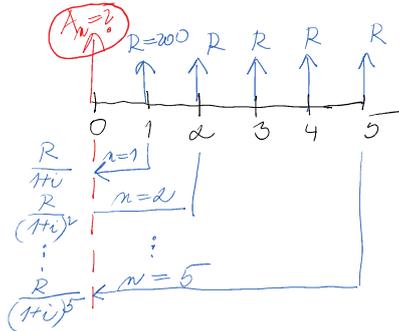
$$n = 8 \quad m = 1$$

$$S_n = R \frac{(1+i)^n - 1}{i}$$

$$S_8 = 500 \frac{(1+0.09)^8 - 1}{0.09}$$

$$S_8 = 4\,948,73375$$

PR2: SÚČASNÁ HODNOTA RENTY A_n



$$n = 5$$

$$R = 200 \quad \mu = 1$$

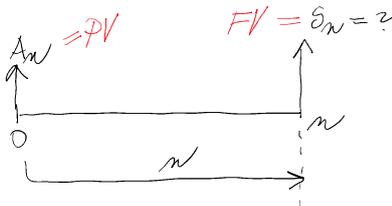
$$i = 9\% \quad m = 1$$

$$A_n = R \frac{1 - (1+i)^{-n}}{i}$$

$$A_5 = 200 \cdot \frac{1 - (1+0.09)^{-5}}{0.09}$$

$$= 842,47276$$

PR3



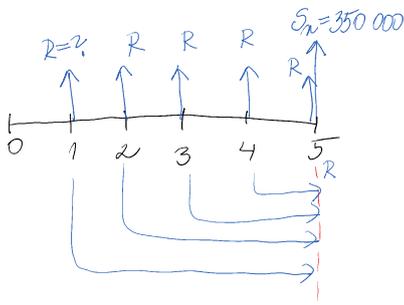
$$FV_n = PV (1+i)^n$$

$$S_n = A_n (1+i)^n$$

$$= 842,47276 \cdot (1+0.09)^5$$

$$= 1\,127,4159$$

PR4



$$S_5 = 350\,000$$

$$n = 5$$

$$i = 9,11\%$$

$$\mu = 1$$

$$m = 1$$

$$R = 2$$

$$S_n = R \frac{(1+i)^n - 1}{i}$$

$$350\,000 = R \frac{(1+0.0911)^5 - 1}{0.0911} \cdot \frac{0.11}{(1+0.0911)^5 - 1}$$

$$R = 350\,000 \cdot \frac{0.11}{(1+0.0911)^5 - 1}$$

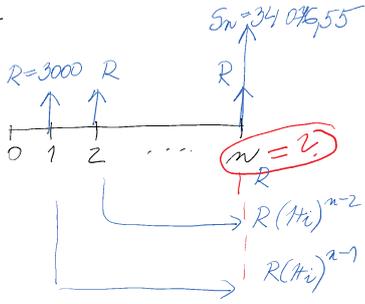
$$R = 56\,199,61$$

PR5

$$S_n = 34\,076,55$$

$$S_n = 34\,076,55$$

PR 5



$$S_n = 34\,076,55$$

$$R = 3000$$

$$i = 0,028$$

$$k = 1$$

$$m = 1$$

$$n = ?$$

$$S_n = R \frac{(1+i)^n - 1}{i}$$

$$34\,076,55 = 3000 \frac{(1+0,028)^n - 1}{0,028} \quad | \cdot \frac{0,028}{3000}$$

$$1,028^n - 1 = 34\,076,55 \cdot \frac{0,028}{3000} \quad | + 1$$

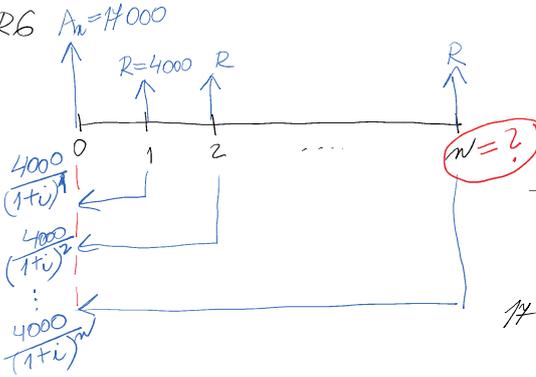
$$1,028^n = 34\,076,55 \cdot \frac{0,028}{3000} + 1 \quad | \ln(\)$$

$$n \cdot \ln 1,028 = \ln \left(34\,076,55 \cdot \frac{0,028}{3000} + 1 \right) \quad | : \ln 1,028$$

$$n = \frac{\ln \left(34\,076,55 \cdot \frac{0,028}{3000} + 1 \right)}{\ln 1,028}$$

$$n = 10$$

PR 6



$$A_n = 17\,000$$

$$R = 4000$$

$$i = 0,04$$

$$k = 1$$

$$m = 1$$

$$n = 8$$

$$A_n = R \frac{1 - (1+i)^{-n}}{i}$$

$$17\,000 = 4000 \frac{1 - (1,04)^{-n}}{0,04} \quad | \cdot \frac{0,04}{4000}$$

$$1 - 1,04^{-n} = 17\,000 \cdot \frac{0,04}{4000} \quad | - 1,04^{-n}$$

$$1 - 17\,000 \frac{0,04}{4000} = 1,04^{-n}$$

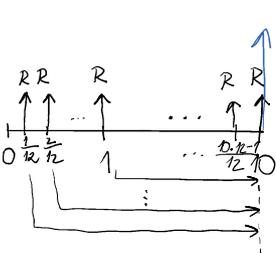
$$1,04^{-n} = 1 - 17\,000 \frac{0,04}{4000} \quad | \ln(\)$$

$$-n \cdot \ln 1,04 = \ln \left(1 - 17\,000 \frac{0,04}{4000} \right) \quad | \cdot \left(\frac{-1}{\ln 1,04} \right)$$

$$n = \frac{-\ln \left(1 - 17\,000 \frac{0,04}{4000} \right)}{\ln 1,04}$$

$$n = 4,75$$

PR 8



$$R = 15$$

$$j = 0,1$$

$$N = 12$$

$$m = 4$$

$$n = 10$$

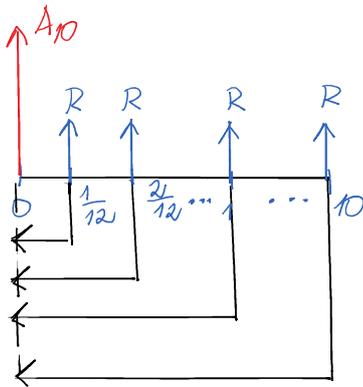
$$S_{10} = ?$$

$$S_m = R \frac{(1+j/m)^{mn} - 1}{(1+j/m)^{k/m} - 1}$$

$$S_{10} = 15 \frac{(1 + \frac{0,1}{4})^{4 \cdot 10} - 1}{(1 + \frac{0,1}{4})^{\frac{4}{4}} - 1}$$

$$= \frac{3\,058,25217}{1}$$

PR9



$$A_{10} = 3058,25217$$

$$j = 0,1$$

$$k = 12$$

$$m = 4$$

$$n = 10$$

$$R = ?$$

$$A_n = R \frac{1 - (1 + \frac{j}{m})^{-m \cdot n}}{(1 + \frac{j}{m})^{\frac{n}{k}} - 1}$$

$$R = 40,27596$$

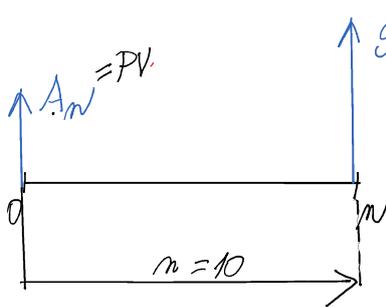
$$3058,25217 = R \cdot \frac{1 - (1 + \frac{0,1}{4})^{-4 \cdot 10}}{(1 + \frac{0,1}{4})^{\frac{10}{12}} - 1}$$

$$\left| \frac{(1 + \frac{0,1}{4})^{\frac{4}{12}} - 1}{1 - (1 + \frac{0,1}{4})^{-4 \cdot 10}} \right.$$

$$R = 3058,25217 \cdot \frac{(1 + \frac{0,1}{4})^{\frac{10}{12}} - 1}{1 - (1 + \frac{0,1}{4})^{-4 \cdot 10}}$$

$$R = 40,27596$$

PR10



$$S_n = FV_n$$

$$= S_n = A_n$$

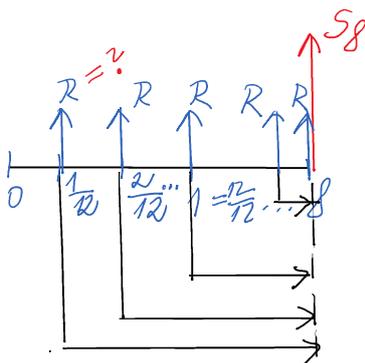
$$FV_n = PV (1 + \frac{j}{m})^{m \cdot n}$$

$$S_n = A_n (1 + \frac{j}{m})^{m \cdot n}$$

$$S_{10} = 3058,25217 (1 + \frac{0,1}{4})^{4 \cdot 10}$$

$$= 8114,45346$$

PR11



$$S_8 = 13204,61$$

$$n = 8$$

$$j = 0,034$$

$$k = 12$$

$$m = 2$$

$$R = ?$$

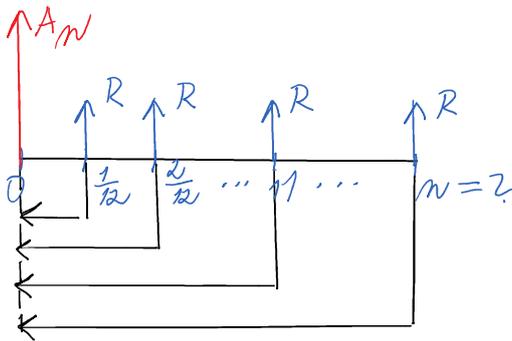
$$S_n = R \frac{(1 + \frac{j}{m})^{m \cdot n} - 1}{(1 + \frac{j}{m})^{\frac{n}{k}} - 1}$$

$$13204,61 = R \frac{(1 + \frac{0,034}{2})^{2 \cdot 8} - 1}{(1 + \frac{0,034}{2})^{\frac{8}{12}} - 1}$$

$$\left| \frac{(1 + \frac{0,034}{2})^{\frac{2}{12}} - 1}{(1 + \frac{0,034}{2})^{2 \cdot 8} - 1} \right.$$

$$R = 13204,61 \cdot \frac{(1 + \frac{0,034}{2})^{\frac{8}{12}} - 1}{(1 + \frac{0,034}{2})^{16} - 1} = \frac{120}{}$$

PR12



$$A_n = 20000$$

$$R = 200$$

$$j = 0,015$$

$$p = 12$$

$$m = 12$$

$$n = ?$$

$$A_n = R \frac{1 - (1 + \frac{j}{m})^{-mn}}{(1 + \frac{j}{m})^{\frac{j}{m}} - 1} = R \frac{1 - (1 + \frac{j}{m})^{-mn}}{\frac{j}{m}}$$

$$20000 = 200 \frac{1 - (1 + \frac{0,015}{12})^{-12n}}{(1 + \frac{0,015}{12})^{\frac{0,015}{12}} - 1} \quad | : 200$$

$$100 = \frac{1 - (1 + \frac{0,015}{12})^{-12n}}{1 + \frac{0,015}{12} - 1} \quad | \cdot \frac{0,015}{12}$$

$$100 \cdot \frac{0,015}{12} = 1 - (1 + \frac{0,015}{12})^{-12n}$$

$$(1 + \frac{0,015}{12})^{-12n} = 1 - 100 \cdot \frac{0,015}{12} \quad | \ln ()$$

$$\ln(1 + \frac{0,015}{12})^{-12n} = \ln(1 - 100 \cdot \frac{0,015}{12})$$

$$n = \frac{\ln(1 - \frac{15}{12})}{-12 \ln(1 + \frac{0,015}{12})}$$

$$n = 8,9;$$