

$$a_{-n} = \frac{1}{a_{+n}}$$

1) a)

	0	1	2	3 ...
1	-1.000	+300	+200	+600
2	+2x2,33	+165,29	+450,29	
3	+165,29	+165,29	+165,29	
4	+450,29	+450,29	+450,29	
5	-1111,19	-1111,19	-1111,19	

$C_0 =$

+ 2x2,33

+ 165,29

+ 450,29

- 1111,19

: 1,1

: 1,1

: 1,1²

: 1,1ⁿ⁻¹

$C_0 = -A_0 + \frac{C_1 - A_1}{1+i} + \frac{C_2 - A_2}{(1+i)^2} + \dots + \frac{C_n - A_n}{(1+i)^n}$

i = 10%

1 € → 1,10 €

0,90 € ← 1 €

a)

$$= \sum_{t=0}^m \frac{E_t - A_t}{(1+i)^t}$$

b)

ENDWERT

$$C_m = -A_0 \cdot (1+i)^m + (E_1 - A_1) \cdot (1+i)^{m-1} + \dots + (E_{m-1} - A_{m-1}) \cdot (1+i) + E_m - A_m$$

$$= \sum_{t=0}^m (E_t - A_t) \cdot (1+i)^{m-t}$$

1)

$$C_n = C_0 \cdot (1+i)^n$$

$$C_3 \stackrel{!}{=} C_0 \cdot (1+i)^3 \Leftrightarrow -148$$

0	1	2	3
-1000	300	290	600
			220
			363
			-1.331
			<u>-148</u>

$\cdot 1,1^3$ (from 0 to 1)
 $\cdot 1,1^2$ (from 1 to 2)
 $\cdot 1,1$ (from 2 to 3)

$$-148 \stackrel{?}{=} -1000,99 \cdot (1,1)^3$$

✓

$$\boxed{q = 1+i}$$

ANNUITÄT

$$A = C_0 \cdot q^m \cdot \frac{i}{q^m - 1}$$

$$= C_m \cdot \frac{i}{q^m - 1}$$

$$A = -11119 \cdot (1+0,1)^3$$

$$\cdot \frac{0,1}{(1+0,1)^3 - 1}$$

$$= -118 \cdot \frac{0,1}{1,1^3 - 1}$$

$$= -11119 \cdot 0,402115$$

$$= -118 \cdot 0,302115$$

$$= -44,71$$

$$= -44,71$$



2

	i	m	C ₀	C _m	A
✓	0,08	4	WIRTE- RESSOUR	20.000	??

$$A = C_m \cdot \frac{i}{q^m - 1}$$

$$= 20.000 \cdot \frac{0,08}{(1 + 0,08)^4 - 1} = \underline{\underline{4.438,42}}$$

1500€ der NACHSCHÜSSIGEN RENTE

Dipl.-Math. Dipl.-Kfm. Daniel Lambert

<https://www.wiwiweb.de>

