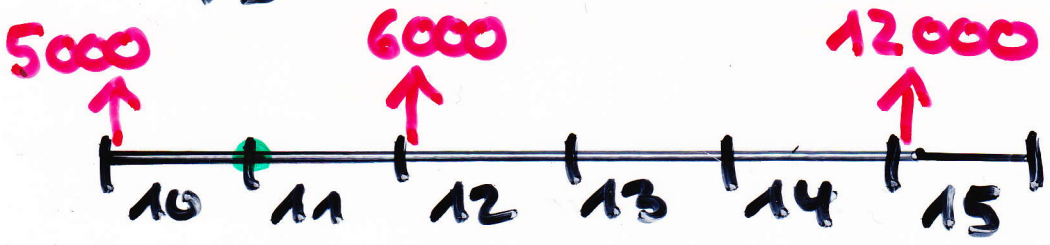
Aufgabe



a) $5000 \cdot q + \frac{6000}{q} + \frac{12000}{q^4} = 20286{,}68$

b) $$n = \frac{\ln \frac{23000}{20286{,}68}}{\ln q} = 1{,}9933$$

d.h. am 01.01.2013

c) $R_0 = 20286{,}68 \cdot q^5 = 27794{,}51$

$$27794{,}51 = r_J \cdot \frac{q^5 - 1}{q - 1} \cdot \frac{1}{q^5}$$

$r_J = 6688{,}32 = r_Q' \,(4 + 2{,}5 \cdot i)$

$r_Q' = 1606{,}80$

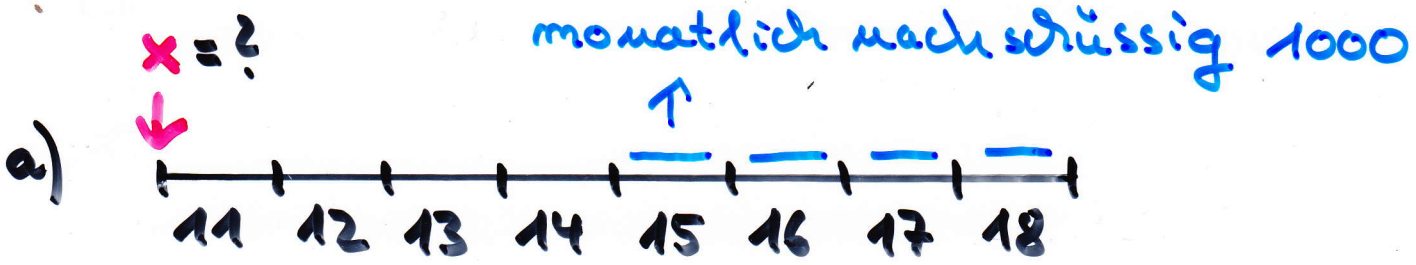
d) $r_J = 1000 \cdot (4 + 2{,}5 \cdot i) = 4162{,}50$

$$n = -\frac{\ln [1 - (27794{,}51 / 4162{,}5) \cdot i]}{\ln q}$$

$n = 9{,}04$ d.h. am 01.10.2024

Aufgabe

a)



$r_J = 1000\,(12 + 5{,}5 \cdot 0{,}03) = 12165$

$x \cdot 1{,}03^4 = R_0 = 12165 \cdot \frac{1{,}03^4 - 1}{0{,}03} \cdot \frac{1}{1{,}03^4}$

$x = 40176{,}05$

b) $K_6 = 40176{,}05 \cdot 1{,}03^6 - 12165 \cdot \frac{1{,}03^2 - 1}{0{,}03}$

$K_6 = 23\,277{,}35$

c) $K_6 - 5000 = 18\,277{,}35$

$18277{,}35 = R_0 = r_J \cdot \frac{1{,}03^2 - 1}{0{,}03} \cdot \frac{1}{1{,}03^2}$

$r_J = 9551{,}94$

$9551{,}94 = r_M\,(12 + 5{,}5 \cdot 0{,}03)$

$r_M = 785{,}20$