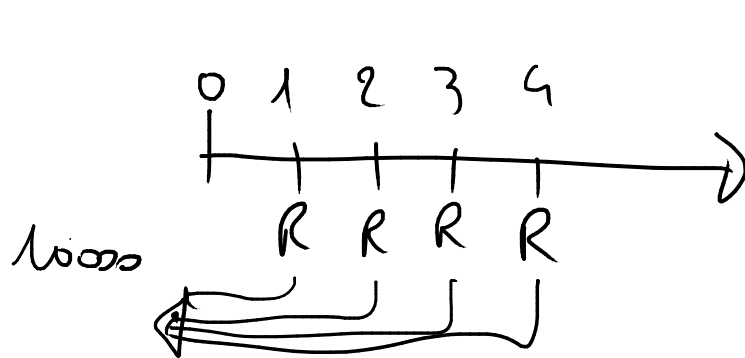


CALCOLO QUANTITÀ CARATTERISTICHE RENDITA

- 1) RAVA
- 2) ~~Durato n° rate~~
- 3) tasso interesse

1) RAVA = ex: 10'000 4 Anni $\frac{\text{RAVA ANNUALE}}{\text{POST}} = ?$



$$i_{\text{ANNUO}} = 8\%$$

$$n^{\circ} \text{ rate} = 4$$

$$10'000 = R \cdot a_{\overline{4}|8\%}$$

$$10'000 = R \cdot \frac{1 - (1 + 0,08)^{-4}}{0,08}$$

$$R = \frac{10'000}{\dots} = 3019,21$$

$$R = 10'000 \cdot \frac{1}{a_{\overline{m}|i}}$$

ex: RATA semestrale 4 Anni

TASSO ANNUO CONVERTIBILE SEM = $J_2 = 8\%$

$$m = 8 \quad i_2 = \frac{J_2}{2} = 4\% \quad R = 10'000 \cdot \alpha_{\overline{8}|0,04} \rightarrow 0$$

$$10000 = R \cdot \frac{1 - (1 + 0,04)^{-8}}{0,04}$$

$$R = 10000 \cdot \frac{0,04}{1 - (1 + 0,04)^{-8}} = \frac{10000}{\frac{1 - (1 + 0,04)^{-8}}{0,04}} = 1685,3$$

ex: RATA ELEMENTARE ANTICIPATA 4 anni
10000 €

$$10000 = R \cdot \ddot{a}_{\overline{m}|i} = R \cdot \frac{1 - (1+i)^{-m}}{i} (1+i)$$

$$R = 10000 \cdot \frac{1}{\ddot{a}_{\overline{m}|i}}$$

$$10000 = R \cdot \frac{1 - (1 + 0,04)^{-8}}{0,04} \cdot (1 + 0,04)$$

$$R = \frac{10000}{\frac{1 - (1 + 0,04)^{-8}}{0,04} \cdot (1 + 0,04)} = 1428,15$$

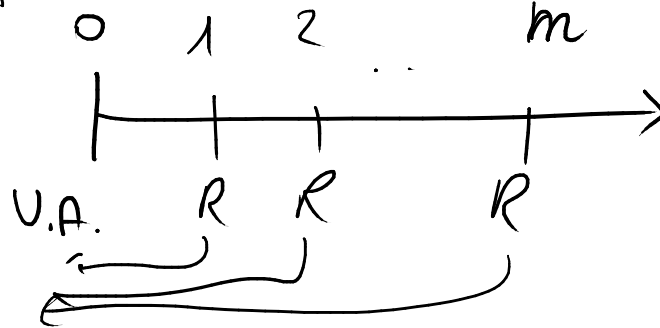
$$R_{\text{POST}} = 1428,15 \cdot (1 + 0,04) = 1485,3$$

$$R_{\text{POST}} = R_{\text{ANT}} (1 + i)$$

Ricerca tasso di interesse =

$$V.A. = R \cdot a_{\overline{m}|i}$$

$$\text{U.A.} = \sum_{k=1}^m R_k (1+i)^{-k} = R \cdot \sum_{k=1}^m (1+i)^{-k}$$



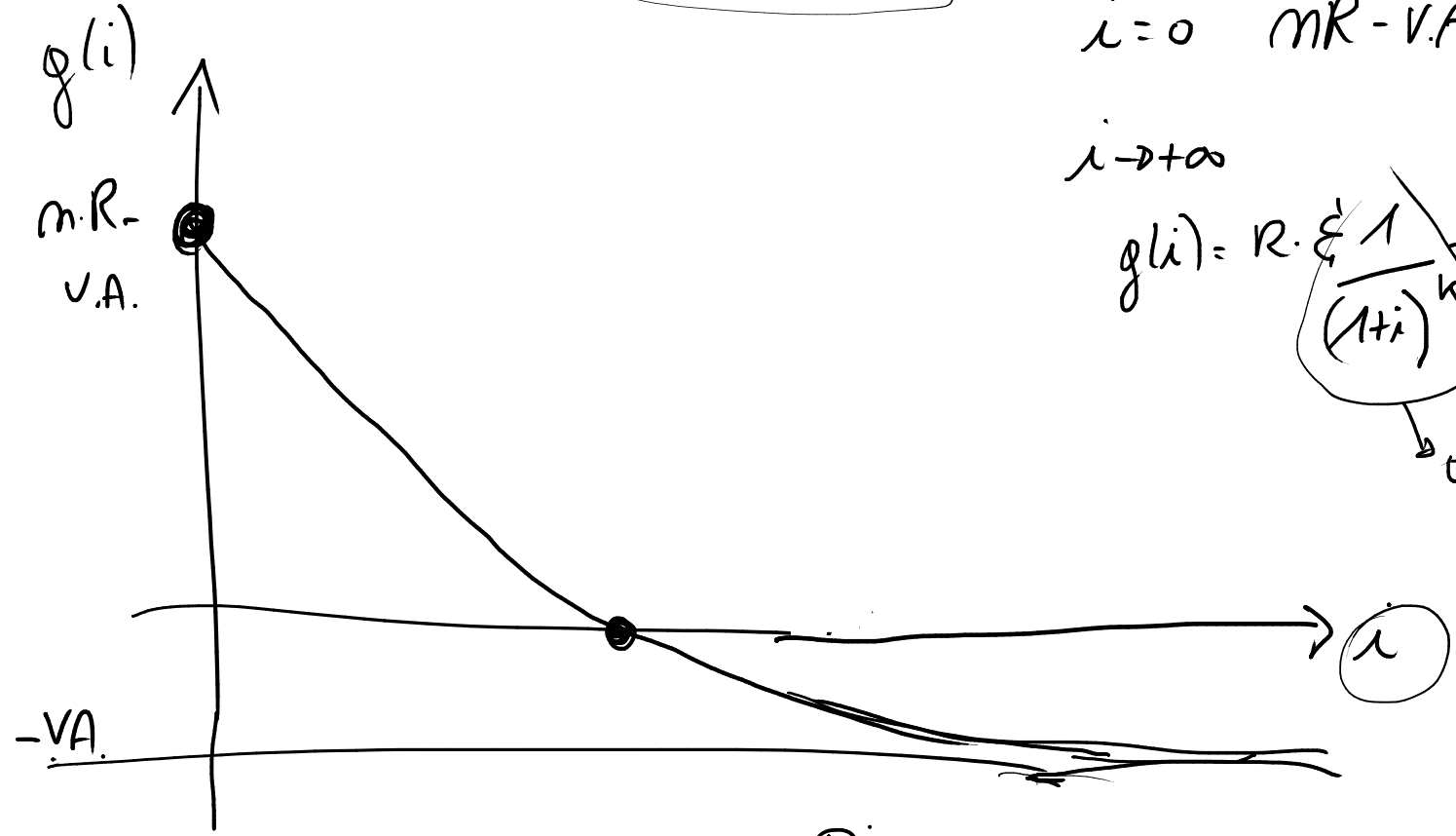
$$\rightarrow g(i) = R \cdot \sum_{k=1}^m (1+i)^{-k} - V.A. = 0$$

$$g(i) = R \cdot \sum_{k=1}^m (1+i)^{-k} - V.A.$$

$i=0 \quad mR - V.A.$

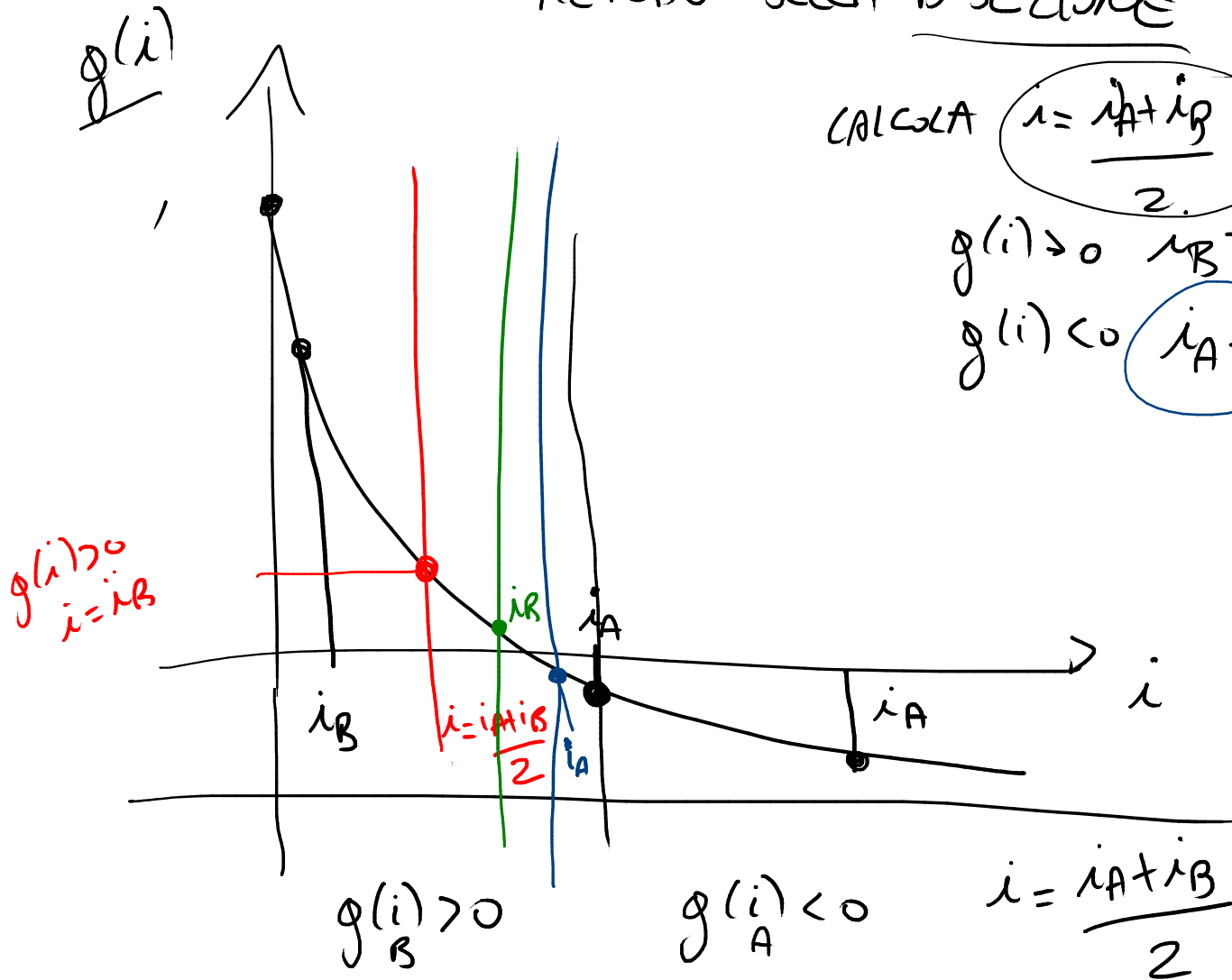
$i \rightarrow +\infty$

$$g(i) = R \cdot \frac{1 - \frac{V.A.}{R}}{(1+i)^k} \rightarrow 0$$



BISEZIONE

METODO DELLA BISEZIONE

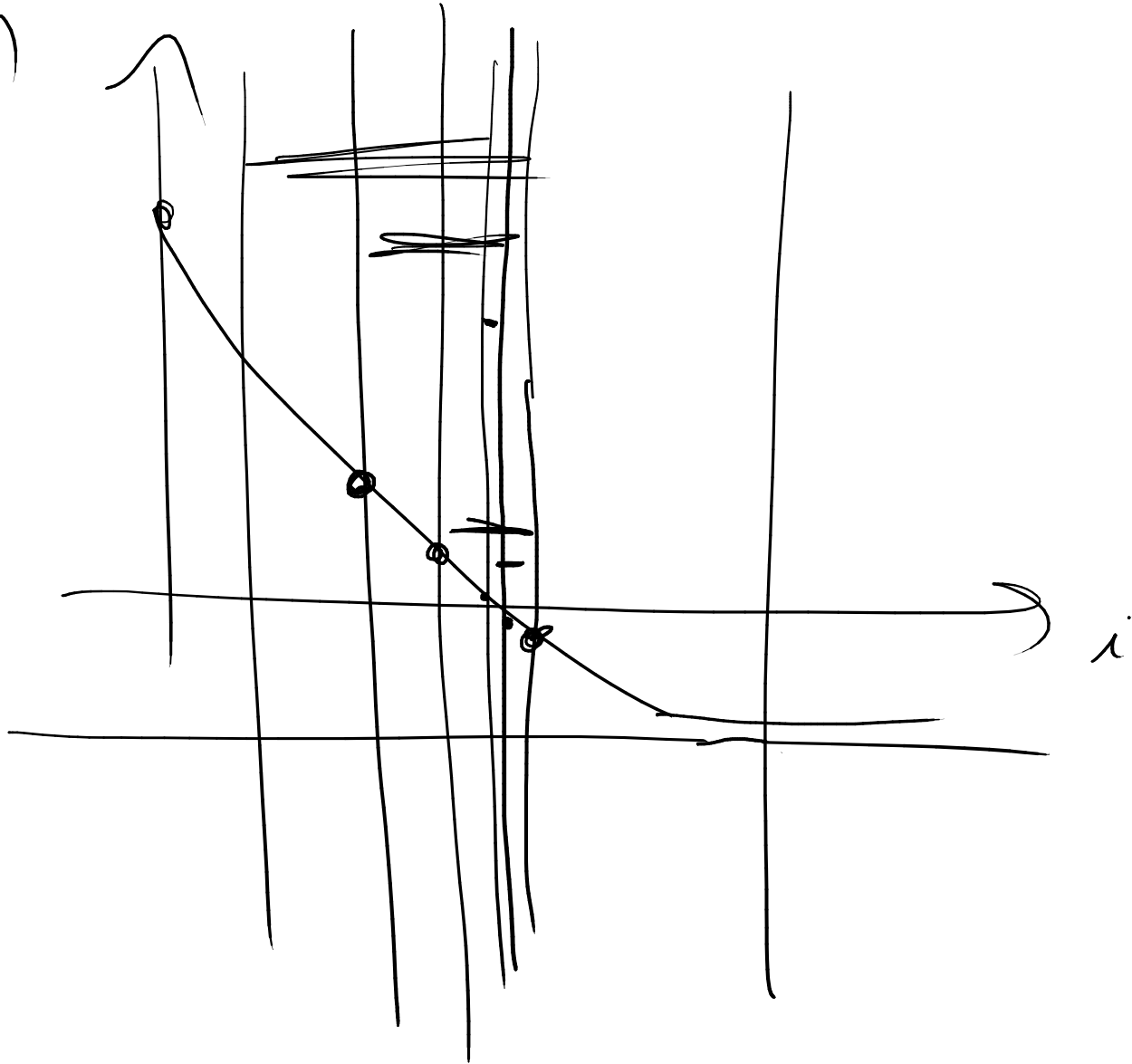


CALCOLA $i = \frac{i_A + i_B}{2}$

$g(i) > 0 \quad i_B = i$

$g(i) < 0 \quad i_A = i$

$g(i)$



ex

FINANZIANDO VIAGGIO

VIAGGIO COSTA 1500,00 €

ACCONTO 25:

Saldo 175:

12 RATE

POSTICIPATE

101,90 €

MESELI

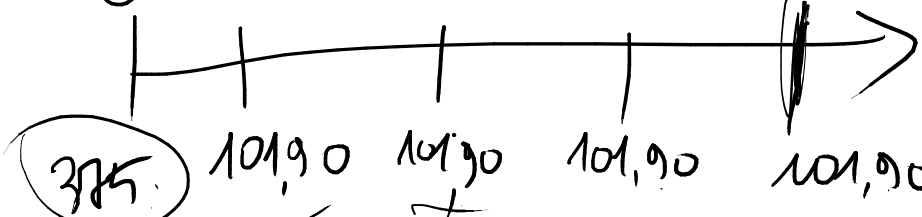
ACCONTO 375 €

SALDO 1125 €

$$12 \times 101,90 =$$

0 1 2 3 .. 12 mesi

1222,80



1597,80

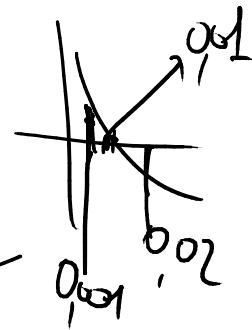
1500

$$1125 = 101,90 \cdot \frac{1 - (1+i_{12})^{-12}}{i_{12}}$$

$$101,90 \left[\frac{1 - (1+i_{12})^{-12}}{i_{12}} \right] - 1125 = g(i_{12})$$

$$i_{12} = \underline{0,001 \text{ BASTO}}$$

$$\underline{0,02 = i_{ACTO}}$$



$$g(0,001) = 89,88$$

$$g(0,02) = -47$$

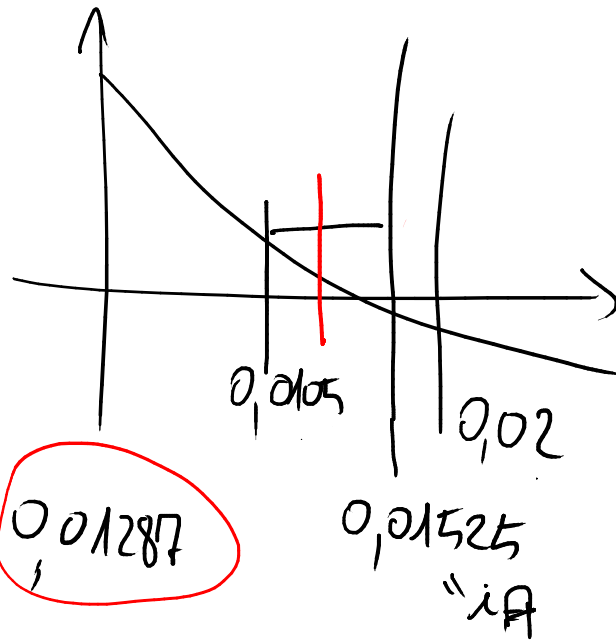
$$\frac{0,001 + 0,02}{2} = i \rightarrow 0,0105$$

$$\begin{aligned} \varphi(0,0105) > 0? &\rightarrow i_A = \varphi(i) = 18 > 0 \\ < 0? &\rightarrow i_B \end{aligned}$$

$$\frac{0,0105 + 0,02}{2} = 0,01525$$

$$\varphi(0,01525) = -15$$

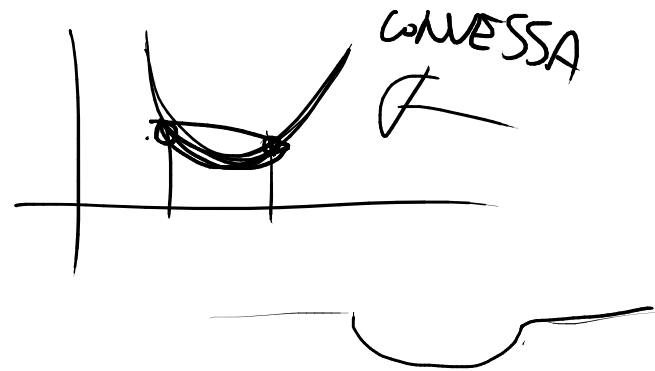
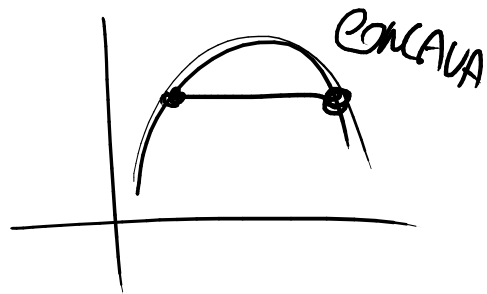
iteratio $\frac{0,01525 + 0,0105}{2} = 0,01287$



$$f(i) = R \cdot \sum_{k=1}^m (1+i)^{-k} - V.A.$$

$$f'(i) = R \cdot \sum_{k=1}^m (-k)(1+i)^{-k-1} < 0$$

$$f''(i) = R \cdot \sum_{k=1}^m (-k)(-k-1)(1+i)^{-k-2} > 0$$



USANDO IL "RISERVA OBIETTIVO"

Altiorno trovato tasso mensile

$$\text{del } 0,013064 = i_{12}$$

$$(1+i_A) = (1+i_{12})^{12}$$

$$i_A = (1+0,013064)^{12} - 1 = 0,1685$$

16,85%