

Corrigé type / Rattrapage 2022-2023

Exo 1 - Taux moyen de placement 6pts

$$T = \frac{\sum c_i \cdot t_i}{\sum c_i \cdot t_i} \quad (2)$$

$$\Rightarrow T = \frac{(2000 \cdot 30 \cdot 7) + (7000 \cdot 60 \cdot 10) + (10.000 \cdot 50 \cdot 9)}{(2000 \cdot 30) + (7000 \cdot 60) + (10.000 \cdot 50)}$$
$$\Rightarrow T = \frac{(420.000) + (4.200.000) + (4.500.000)}{(60.000) + (420.000) + (500.000)}$$

$$\Rightarrow T = \frac{9120.000}{980.000} \Rightarrow \boxed{T = 9,30\%} \quad (2)$$

Exo 2 - Taux d'équivalence 07pts

$$C_0(1+i)^{-n_0} = C_8(1+i)^{-8} \quad (1pt)$$

$$2411,70(1+i)^{-20} = 1422,10(1+i)^{-8} \quad (1pt)$$

$$\Rightarrow \frac{2411,70}{1422,10} = \frac{(1+i)^{-8}}{(1+i)^{-20}} = (1+i)^{-8+20} = (1+i)^{12}$$

$$\Rightarrow 1,6958 = (1+i)^{12}$$

$$\Rightarrow (1,6958)^{\frac{1}{12}} - 1 = i$$

$$\Rightarrow i = 1,04499 - 1$$

$$\Rightarrow i = 0,04499$$

$$\Rightarrow t = 4,49 \Rightarrow \boxed{t \approx 4,5\%} \quad (2)$$

Exo 4

07/00

a) V_n per Bank 7 ans

$$V_n = C_0 (1+i)^n$$

$$V_7 = 170.000 (1,07)^7$$

$$V_7 = 272.982,85 \text{ DA} \quad (1)$$

b) V_n per Bank 6 ans et 8 mois

→ Solution commerciale

$$V_n = C_0 (1+i)^{K + \frac{P}{9}}$$

$$V_{6 + \frac{8}{12}} = 170.000 (1,07)^{6 + \frac{8}{12}}$$

$$V_{6 + \frac{8}{12}} = 266.895,20 \text{ DA} \quad (1)$$

→ Solution rationnelle

$$V_n = C_0 (1+i)^K \left(1 + \frac{i \cdot P}{9}\right)$$

$$V_n = 170.000 (1,07)^6 \left(1 + \frac{0,07 \cdot 8}{12}\right)$$

$$V_n = 170.000 (1,5007) (1,0466)$$

$$V_n = 305.687,7882 \text{ DA} \quad (1)$$

$$V_n = 267.007,5454 \text{ DA} \quad (1)$$