

TEMA 2. 1º BACH B

$$\textcircled{1} C_F = C \left(1 + \frac{r}{k}\right)^{t \cdot k}$$

$$13926,49 = 12000 \left(1 + \frac{0,06}{4}\right)^{4t} \Rightarrow 1,160540833 = (1,015)^{4t} \Rightarrow$$

$$4t = \frac{\log 1,160540833}{\log 1,015} = 10,00000046 \Rightarrow t = 2,5 \text{ años}$$

$$\textcircled{2} C = \frac{100 \left(1 + \frac{0,05}{4}\right) \left[\left(1 + \frac{0,05}{4}\right)^{4 \cdot 20} - 1\right]}{\frac{0,05}{4}} = \frac{100 (1,0125) \cdot [1,0125^{80} - 1]}{0,0125} =$$

$$= 13782,028 \text{ €}$$

$$\textcircled{3} \text{ a) } C = \frac{a(1+r) [(1+r)^t - 1]}{r}$$

$$18000 = \frac{a \cdot 1,07 \cdot [1,07^{12} - 1]}{0,07} \Rightarrow 1260 = 1,339845 a \Rightarrow a = 940,41 \text{ €}$$

$$\text{b) } 18000 = \frac{a \left(1 + \frac{0,07}{2}\right) \left[\left(1 + \frac{0,07}{2}\right)^{2 \cdot 12} - 1\right]}{\frac{0,07}{2}} \Rightarrow 630 = a \cdot 1,328244984 \Rightarrow$$

$$\Rightarrow a = 474,31 \text{ €}$$

$$\textcircled{4} a = \frac{C \cdot r (1+r)^t}{(1+r)^t - 1} \Rightarrow 9000 = \frac{75454,60 \cdot 0,06 \cdot (1,06)^t}{(1,06)^t - 1}$$

$$9000 (1,06)^t - 9000 = 4527,276 \cdot (1,06)^t$$

$$9000 (1,06)^t - 4527,276 \cdot (1,06)^t = 9000$$

$$4472,724 (1,06)^t = 9000$$

$$(1,06)^t = 2,012196594$$

$$t = \frac{\log 2,012196594}{\log 1,06} = 12 \text{ años}$$

$$\textcircled{5} \text{ a) } I_1 = 100 \cdot \frac{0,12}{12} \cdot 1 = 1 \text{ €}$$

$$\Rightarrow I = 1 + 3,39 = 4,39 \text{ €}$$

$$I_2 = 100 \cdot \frac{0,037}{12} \cdot 11 = 3,39 \text{ €}$$

$$\text{b) } TAE = \left[\left(1 + \frac{0,0439}{12}\right)^{12} - 1 \right] \cdot 100 = 4,48 \%$$

$$r = \frac{0,12 \cdot 1 + 0,037 \cdot 11}{12} = 0,0439$$

$$\textcircled{6} \text{ Precio} = 18000 \cdot 1,15 \cdot 0,95 = 19665 \text{ € Paga Etc}$$

$$1,15 \cdot 0,95 = 1,0925 \text{ Porcentaje de variación} \Rightarrow 9,25 \%$$