

$$\textcircled{1} \quad 37\text{€} \xrightarrow{-40\%} \quad \xrightarrow{+4\%}$$

$$\frac{37\text{€} \cdot 40}{100} = 14'8\text{€}$$

$$14'8 \longrightarrow 100\%$$

$$X \xrightarrow{+4\%} 104\%$$

$$X = \frac{104 \cdot 14'8}{100} = \underline{\underline{15'39\text{€}}}$$

$$\textcircled{2} \quad \begin{array}{ccc} \text{Agosto} & \xrightarrow{-25\%} & \text{Octubre} & \xrightarrow{-15\%} & \text{Diciembre} \\ 90\text{€} & & X & & Y \end{array}$$

$$X = \frac{90 \cdot 75}{100} = \underline{\underline{67'5\text{€}}} \quad Y = \frac{67'5 \cdot 85}{100} = 57'38\text{€}$$

$$X \longrightarrow Y \longrightarrow 60\text{€}$$

$$\begin{array}{ccc} 60 & \longrightarrow & 85\% \\ X & \longrightarrow & 100\% \end{array} \quad Y = \frac{100 \cdot 60}{85} = \underline{\underline{70'59\text{€}}}$$

$$\begin{array}{ccc} 70'59 & \longrightarrow & 75\% \\ X & \longrightarrow & 100\% \end{array} \quad X = \frac{70'59 \cdot 100}{75} = \underline{\underline{94'12\text{€}}}$$

$$\textcircled{3} \quad C = 2000\text{€}$$

$$r = 5\%$$

$$t = 6 \text{ años}$$

$$C = C_0 \cdot \left(1 + \frac{r}{100}\right)^n$$

$$C = 2000 \cdot \left(1 + \frac{5}{100}\right)^6 = 2680'19\text{€}$$

$$C = 2000 \text{ €}$$

$$r = 5\% \text{ anual}$$

$$C = 2000 \cdot \left(1 + \frac{5}{100}\right)^{0.33} = \underline{\underline{2032.46 \text{ €}}}$$

$$t = 4 \text{ meses} = \frac{4}{12} = 0.33 \text{ años}$$

④

$$a_m = \frac{m^2}{m} + \frac{m}{2}$$

$$a_1 = \frac{1^2}{1} + \frac{1}{2} = 1 + \frac{1}{2} = \frac{3}{2}$$

$$a_2 = \frac{2^2}{2} + \frac{1}{2} = \frac{4}{2} + \frac{1}{2} = \frac{5}{2}$$

$$a_3 = \frac{3^2}{3} + \frac{1}{2} = \frac{18+3}{6} = \frac{21}{2}$$

$$a_4 = \frac{4^2}{4} + \frac{1}{2} = \frac{16+2}{4} = \frac{18}{4} = \frac{9}{2}$$

$$b_m = 2b_{m-2} - 3b_{m-1}$$

$$b_1 = -1; b_2 = 1$$

$$b_3 = 2b_{3-2} - 3b_{3-1} = 2 \cdot b_1 - 3b_2 = 2(-1) - 3 \cdot 1 = -2 - 3 = \underline{\underline{-5}}$$

$$b_4 = 2b_{4-2} - 3b_{4-1} = 2 \cdot b_2 - 3b_3 = 2 \cdot 1 - 3(-5) = 2 + 15 = 17$$

$$\cup \quad a = 35, 31, 27, 23$$

$\xrightarrow{-4}$

$$a_m = a_1 + (m-1)d = 35 + (m-1)(-4)$$

$$a_m = 35 - 4m + 4 \Rightarrow \boxed{a_m = 39 - 4m}$$

$$a_{12} = 39 - 4 \cdot 12 = 39 - 48 = -9$$

$$\sum_{23} = \frac{(a_1 + a_{23}) \cdot n}{2} = \frac{(35 - 61) \cdot 25}{2} = -325$$

$$a_{25} = 39 - 4 \cdot 25 = 39 - 100 = -61$$

$$b. - 16, 8, 4, 2$$

$\xrightarrow{\times 0.5}$

$$b_m = b_1 \cdot r^{m-1} = 16 \cdot 0.5^{m-1}$$

$$b_{12} = 16 \cdot 0.5^{12-1} = 16 \cdot 0.5^{11} = 0.0078$$

$$\sum_{25} = \frac{b_1 (r^{25} - 1)}{r - 1} = \frac{16(0.5^{25} - 1)}{0.5 - 1}$$

$$e) a_2 = 17 \quad y \quad a_5 = 50$$

$$a_m = a_1 + (m-1)d$$

$$\left. \begin{aligned} a_2 &= a_1 + (2-1) \cdot d \rightarrow 17 = a_1 + d \\ a_5 &= a_1 + (5-1) \cdot d \rightarrow 50 = a_1 + 4d \end{aligned} \right\}$$

$$d = 17 - a_1 \rightarrow 50 = a_1 + 4(17 - a_1)$$

$$50 = a_1 + 68 - 4a_1 \rightarrow 3a_1 = 18 \quad \boxed{a_1 = 6}$$

$$d = 17 - 6 = 11$$

$$\boxed{a_m = 6 + (m-1) \cdot 11}$$

$$\underline{\underline{a_m = 11m - 5}}$$

$$f) a_1 = 4'5$$

$$a_8 = 9$$

$$a_m = a_1 + (m-1) \cdot d$$

$$a_8 = 4'5 + (8-1) \cdot d = 9$$

$$9 - 4'5 = 7d \quad d = \frac{4'5}{7} = 0'64$$

$$a_{17} = 4'5 + (17-1) \cdot 0'64 = 14'74 \text{ m}$$