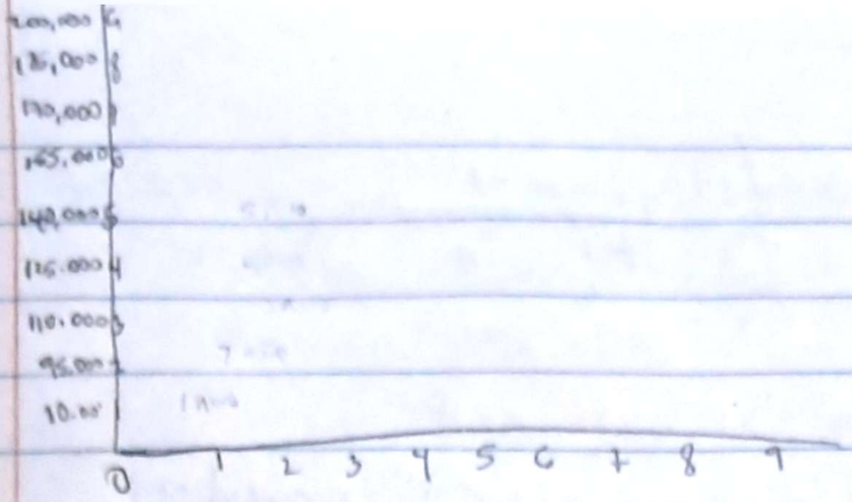
①



P_1 : \$ 80.000 $\qquad G = \dfrac{P_n - P_1}{n-1}$

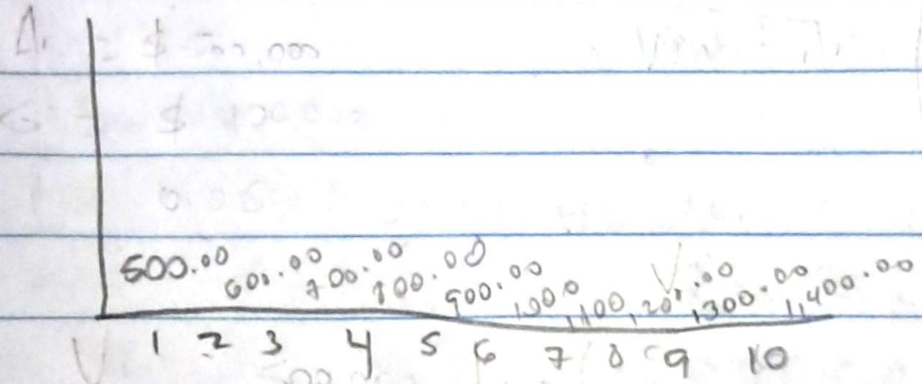
Ingreso Final

P_9 : \$ 200,000

$$G = \frac{200,000 - 80,000}{8} \qquad G = 15,000 \text{ Por Año}$$

$$G = \frac{120,000}{8} = \cancel{15,000}$$

②



A = 500,000 $\qquad P_A = A\left(\dfrac{1-(1+i)^{-n}}{i}\right)$

n = 10 Años $\qquad P_A = 500,000\left(\dfrac{1-(1.05)^{-10}}{0.05}\right) = 500.00\,(7.7217)$

G = \$100 $\qquad$ n = 10 Años $\qquad = 3,860,867$

$$PG = G\frac{(1+i)^n - in - 1}{i^2(1+i)^n}$$

$G = 100{,}000$, $i = 0.05$ $n = 10$

$$PG = 100{,}000 \cdot \frac{(1.05)^{10} - 0.05(10) - 1}{(0.05)^2(1.05)^{10}}$$

$$PG = 100{,}000(31.6520) = 3{,}165{,}207.32$$

$PT = P_A + PG$

$PT = 3{,}860{,}867.46 + 3{,}165{,}207.32 = 7{,}026{,}074.78$

$PT = \$7{,}026{,}074.78$

b) $A = PT\frac{i(1+i)^n}{(1+i)^n - 1}$

$PT = 7{,}026{,}074.78$

$i = 0.05$

$n = 10$

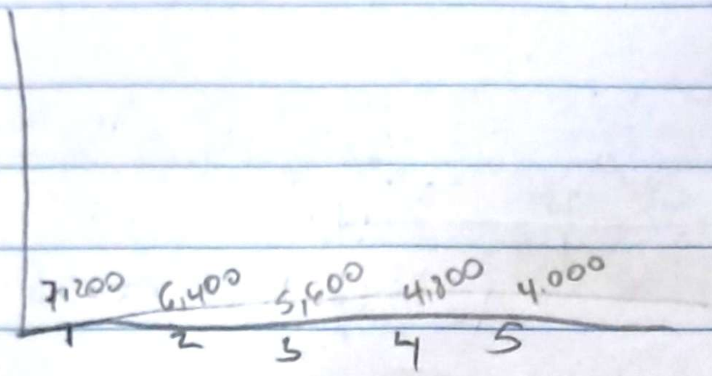
$A = 7{,}026{,}074.78 \cdot 0.1295046 = 909{,}908.8$

b) $A = \$909{,}908.83$

(3) $G = 800$

$R_1 = \$4.000$ $\quad R_t = 4000 + (t-1) \cdot 800$

$i = 0.10$



$R_3 = 4.000 + (3-1) \cdot 800 = 4{,}000 + 1{,}600 = 5{,}600$

$R_3 = \$5{,}600$

$PV = \$20{,}652.59$

$$A = PV \frac{i(1+i)^n}{(1+i)^n - 1}$$

Con $PV = 20{,}652.59$

$i = 0.10$

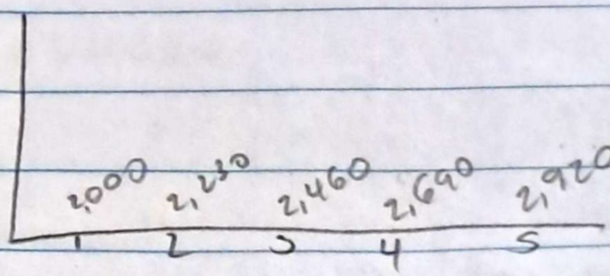
$n = 5$

$A = 20{,}652.59 \cdot 0.2638 = 5{,}448.10$

$A = \$5{,}448.10$

④ $C_1 = \$2{,}000$

$i = 18\% = 0.18$



$C \quad \dfrac{2{,}000}{0.20} = 10{,}000$

$A = 2000$

$G = 230$

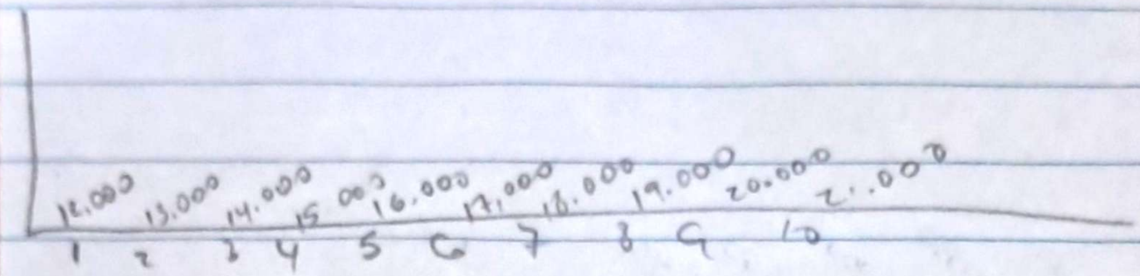
$PV_A = A\left(\dfrac{1-(1+i)^{-n}}{i}\right)$

Con $A = 2000$, $i = 0.18$, $n = 5$

$PVT = PVA + PVG = 6{,}254.34 + 1{,}203.19 = 7{,}457.5$

$PVT = \$7{,}457.53$

(5) $A_t = 12000 + (t-1) \cdot 1000 \quad t=1$



$i = 15\% = 0.15, \quad n = 10$

$$P_A = A \left(\frac{1-(1+i)^{-n}}{i} \right)$$

$$P_A = 12{,}000 \left(\frac{1-(1.15)^{-10}}{0.15} \right) = 60{,}225.22$$

$$P_T = P_A + P_G = 60{,}225.22 + 16{,}979.48 = 77{,}204.70$$

$$= \$77{,}204.70$$

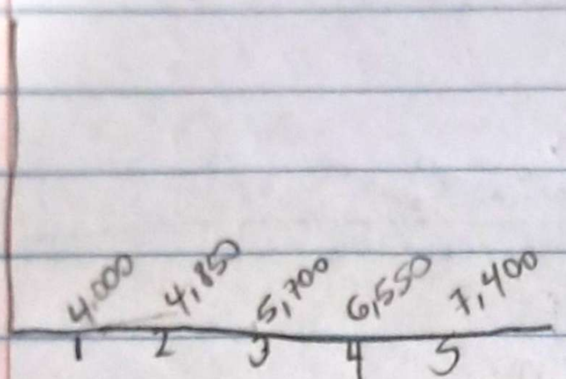
$$A_{eq} = P_T \cdot \frac{i(1+i)^n}{(1+i)^n - 1}$$

$$= 77{,}204.70 \cdot 0.1993 = 15{,}383.20$$

$$A_{eq} = \$15{,}383.20$$

⑥ $A_1 = \$4{,}000$

$G = \$850$



$i = 12\% = 0.12$

$$PV_A = A\left(\frac{1-(1+i)^{-n}}{i}\right)$$

$A = 4{,}000$

$n = 5$

$i = 0.12$

$$PV_A = 4{,}000\left(\frac{1-(1.12)^{-5}}{0.12}\right)$$

$$(1.12)^{-5} = 0.5674$$

$$PV_A = 4{,}000\,(3.6119) = 14{,}447.6$$

$$PV_G = 850\,(6.394) = 5{,}435$$

$$PV_T = 14{,}447.6 + 5{,}435 = 19{,}882.6$$

$$PV_T = \$19{,}883$$

7 $C_0 = 1{,}000{,}000$, $i = 0.11$

$$VP = \sum_{t=1}^{n} \frac{F_t}{(1+i)^t}$$

$VP = \$13{,}521{,}550.98$

(8) $C_t = 50{,}000 - 2{,}000\,(t-1)$

$A = 50{,}000$

$G = 2{,}000$

$I = 12\%$

$n = 10$

$$P_A = 50{,}000\left(\frac{1-(1.12)^{-10}}{0.12}\right) = 282{,}511.15$$

$$P_G = 2{,}000\;\frac{(1.12)^{10} - 0.12\,(10) - 1}{(0.12)^2\,(1.12)^{10}}$$

$= 40{,}508.17$

$PT = P_A - P_G = 282{,}511.15 - 40{,}508.18$

$= 242{,}002.97$

b) $F_{10} = PT \cdot (1+i)^{10}$

$PT = 242,002.97$

$i = 0.12$

$n = 10$

$F_{10} = 242,002.97 \cdot (1.12)^{10}$

$(1.12)^{10} = 3.106$

$F_{10} = 242,002.97 \times 3.106$

$F_{10} = 242,002.97 \times 3.106 = 751,624$

$F_{10} = \$751,624.49$

9a) $PT_0 = \$153,797.26$

b) $F_{10} = \$477,670.95$

$PT_0 = \frac{242,002.97}{1.5748} = 153.797.2$

$PT_0 = \$153,797.26$

$PT_0 = 153,797.26$

$i = 0.12$

$(1.12)^{10} = 3.106$

$F_{10} = 153,797.26 \cdot 3.106 = 477.670.95$

$F_{10} = \$477,670.95$