QI

[a]

$i = 6\%$

$\$3000 \quad 3000 \quad 3000 \quad 3000 \quad 3000 \quad 3000 \quad 3000 \quad 3000 \quad 3000$

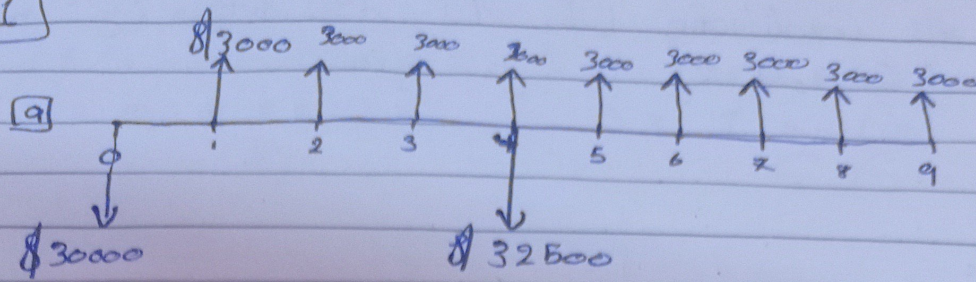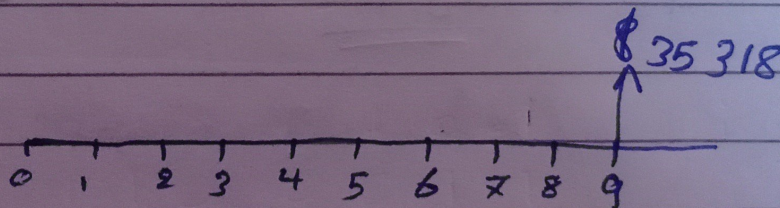0 1 2 3 4 5 6 7 8 9

$\$30000$

$\$32500$

$\uparrow 7500 \quad -\downarrow 4500 = 3000 \rightarrow$ مقدار الربح لكل سنة،

[b] $FW = -30000(F/P, 6\%, 9) - 32500(F/P, 6\%, 5)$
$+ 3000(F/A, 6\%, 9)$

$= [-3000 \times 1.689] - [32500 \times 1.338] + [3000 \times 11.491]$
$= -59682$

[c] $F_T = \$95000 - \$59682 = \$35318$

$\$35318$

0 1 2 3 4 5 6 7 8 9

Manar Fuopha 202010224

Q2

$P = \$25000$, $i = 8\%$ per year   Compound

$r = 8\%$ for a period of one year
Compounding periods $m = 2$

$i_a = \left(1 + \dfrac{0.08}{2}\right)^2 - 1 = 8.16\%$

$F_W = P(1 + i_a)^n$
$= 25000 (1 + 0.0816)^{10} = \$54778$

Q3   MARR $= 6.5\%$

$PW = -\text{first Cost} - A\left[\dfrac{(1+i)^n - 1}{i(1+i)^n}\right] + F(1+i)^{-n}$

P_A $= -60000 - 2200\left[\dfrac{(1+0.065)^5 - 1}{0.065(1+0.065)^5}\right] + 50000(1+0.065)^{-5}$

$P_{N_A} = \$-32648.45$

$P_{WB} = -50500 - 1750\left[\dfrac{(1+0.065)^5 - 1}{0.065(1+0.065)^5}\right] + 35000(1+0.065)^{-5}$

$P_{WB} = \$-32226.6$

$PW_C = -25500 - 30000\left[\dfrac{(1+0.065)^5 - 1}{0.065(1+0.065)^5}\right] + 15000(1+0.065)^{-5}$

$P_{WC} = \$-139222.18$

the ~~PWP~~ is
the Cost type B is selected
because PW_B is the lowest