6 a) $n = 10$ years

$C = 100,000$

$r = 16\%$

$100,000(1.16)^{10}$

$= 441143.5079$

b) $\left(1+\frac{i^{(p)}}{p}\right)^{p} = (1+i)$

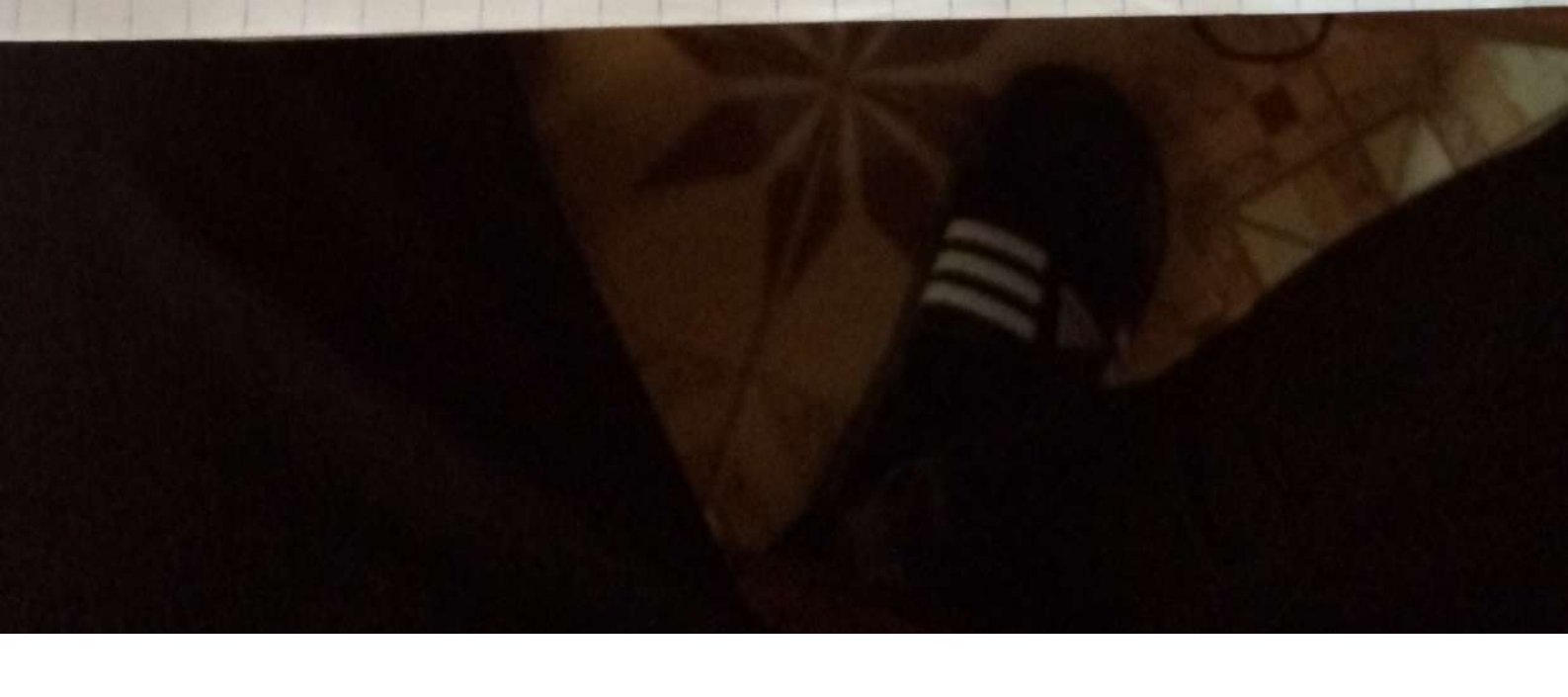
$\left(1+\frac{i}{4}\right)^{4} = 1.16$

$i = 4\left((1.16)^{1/4} - 1\right)$

$i = 0.1512 \quad = 15.12\%$

$100,000(1.1512)^{40}$

$441143.5079 \rightarrow 27927447.05$



(c) Annuity immediate

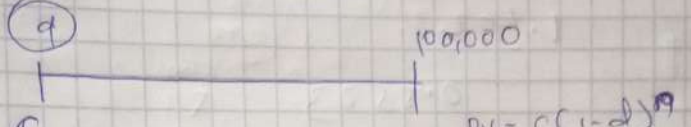
$i = 16\%$

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

$100{,}000\left(\frac{(1.16)^{10} - 1}{0.16}\right)$

$= 2{,}056240.131$

(d)



$PV = C(1-d)^n$

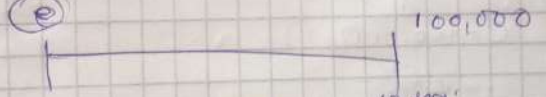
$d = 16\%$

$100{,}000(1-0.16)^{10}$

$= 17490.12$

$= 20808.36034$

(e)



$d = 24\%$

$PV = C(1-d)^{10}$

$100{,}000(1-0.24)^{10}$

$= 6428.887$

(f)

$PV = \left(\frac{1 - V^n}{i}\right)C$

$(1-d)^1 = (1+i)^{-1}$

$(1-0.10) = (1+i)^{-1}$

$i = 19.047\%$

$\frac{1 - (1.19047)^{-10}}{0.19047}$

$= 433190.190$