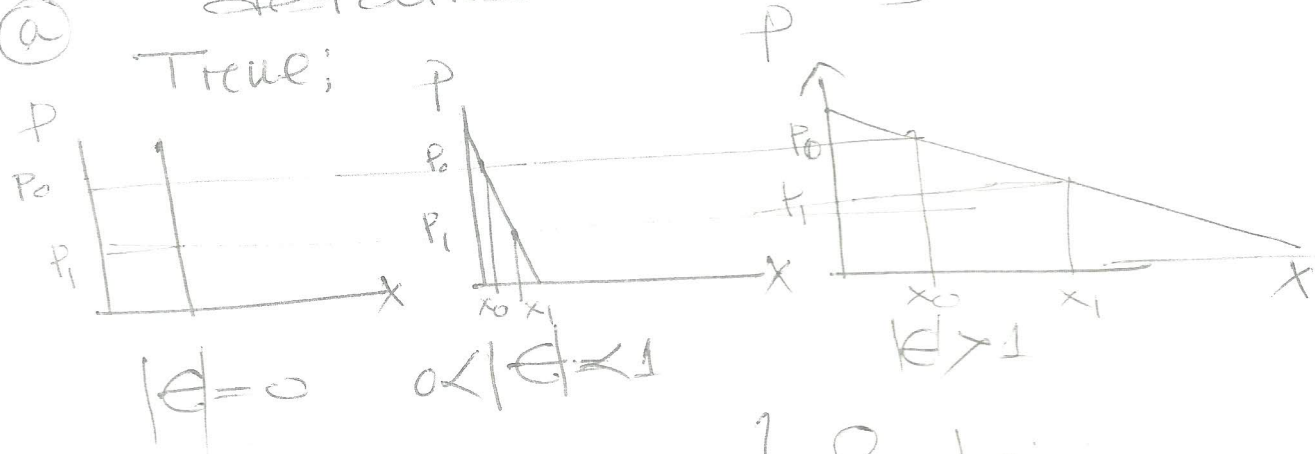


① [Students need to write detailed answers]

②

True;



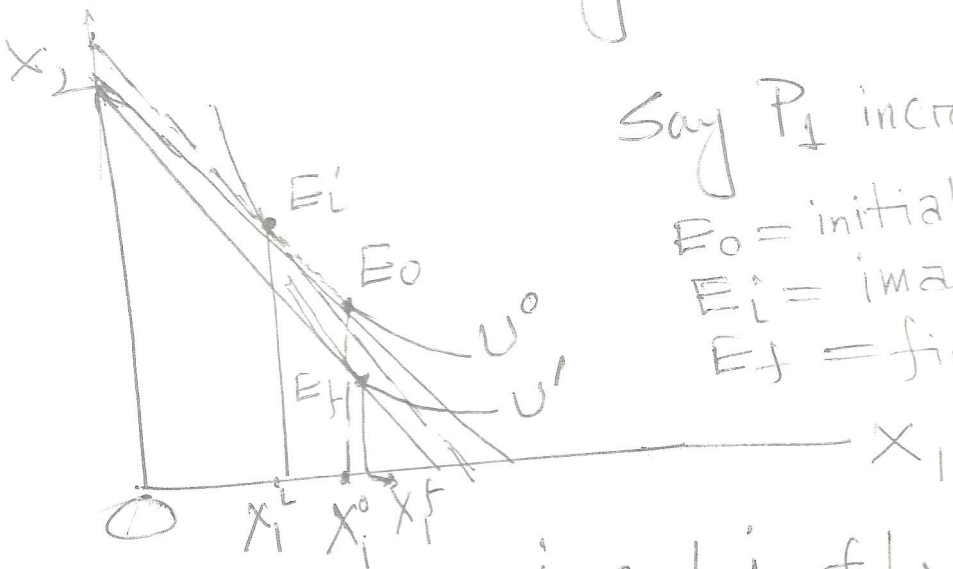
$$e = \frac{\% \Delta X}{\% \Delta P}$$

} Explain using similar diagrams.

③

False;

For Giffen goods  $I.E. > S.E.$



Say  $P_1$  increased

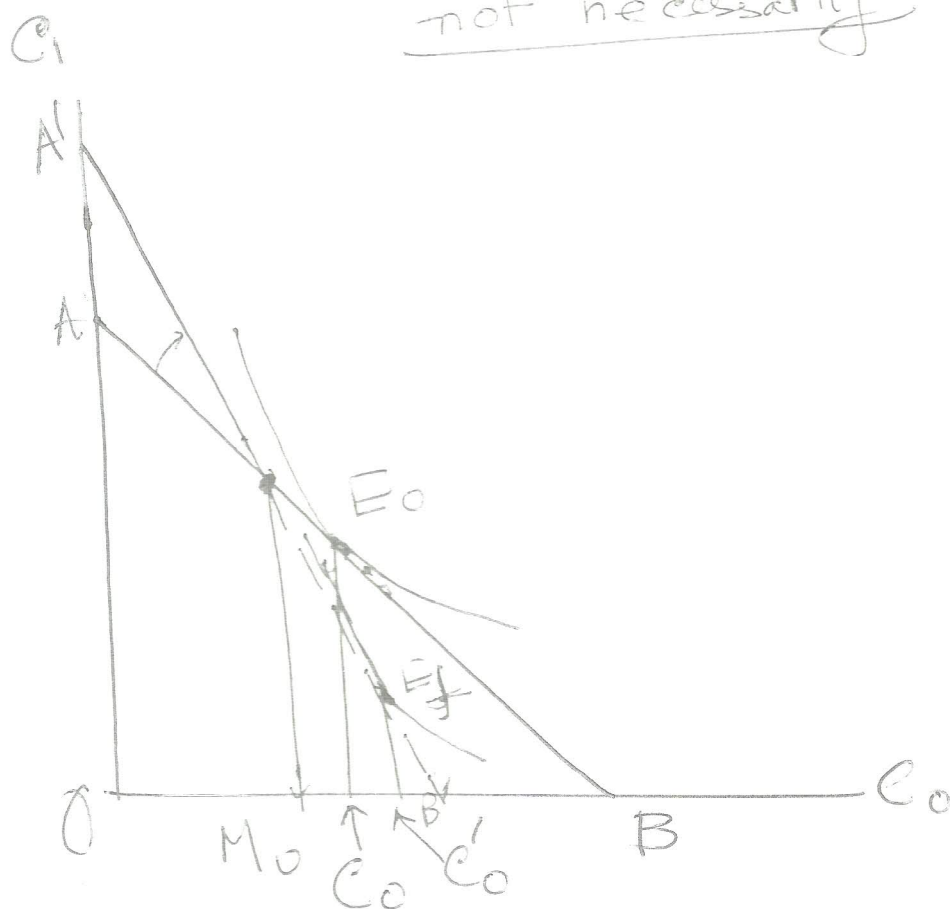
$E_0$  = initial equilibrium  
 $E_i$  = imagin. "  
 $E_f$  = final "

$$\left. \begin{aligned} S.E. &= X_1^0 X_1^i \\ I.E. &= X_1^i X_1^f \end{aligned} \right\} |X_1^i X_1^f| > |X_1^0 X_1^i|$$

①

P2/4

False, not necessarily



Borrowing with the original interest rate =  $M_0 C_0$

With increased interest, the amount borrowed can go up, as shown in the diagram  $[M_0 C_0']$ .

$$M_0 C_0' > M_0 C_0$$

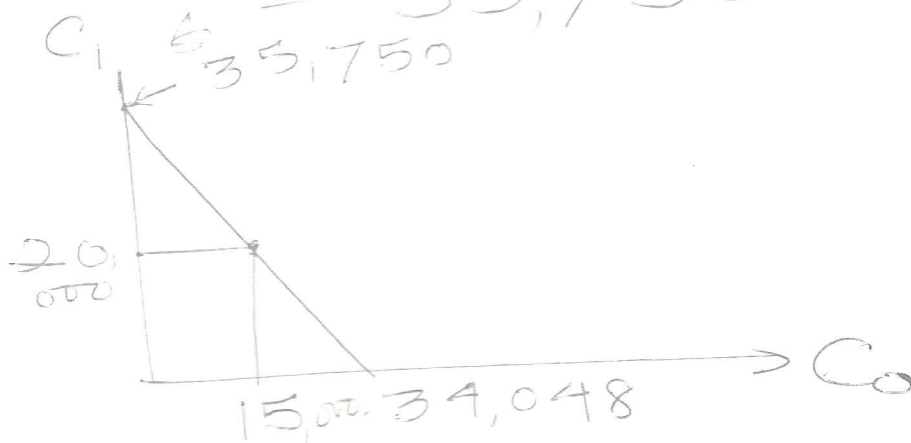
② Text book, P. 135

P3/4

③

$$\begin{aligned}
 \textcircled{i} \quad PV &= \$15,000 + \frac{\$20,000}{(1+.05)} \\
 &= \$15,000 + \$19,048 \text{ (rounded)} \\
 &= \$34,048
 \end{aligned}$$

$$\begin{aligned}
 FV &= 15,000 [1+.05] + \$20,000 \\
 &= 15,750 + 20,000 \\
 &= \$35,750
 \end{aligned}$$



$$\textcircled{ii} \quad L = C_0^{.5} C_1^{.5} + \lambda \left[ 34,048 - C_0 - \frac{C_1}{1.05} \right]$$

$$\frac{\partial L}{\partial C_0} = .5 C_0^{-.5} C_1^{.5} - \lambda = 0 \quad \text{--- (1)}$$

$$\frac{\partial L}{\partial C_1} = .5 C_0^{.5} C_1^{-.5} - \frac{\lambda}{1.05} = 0 \quad \text{--- (2)}$$

$$\frac{\partial L}{\partial \lambda} = 34,048 - C_0 - \frac{C_1}{1.05} = 0 \quad \text{--- (3)}$$

$$\lambda = \frac{.5 C_1^{.5}}{C_0^{.5}} = \frac{(1.05) .5 C_0^{.5}}{C_1^{.5}}$$

$$\therefore 1.05 C_0 = C_1 \quad \therefore C_0 =$$

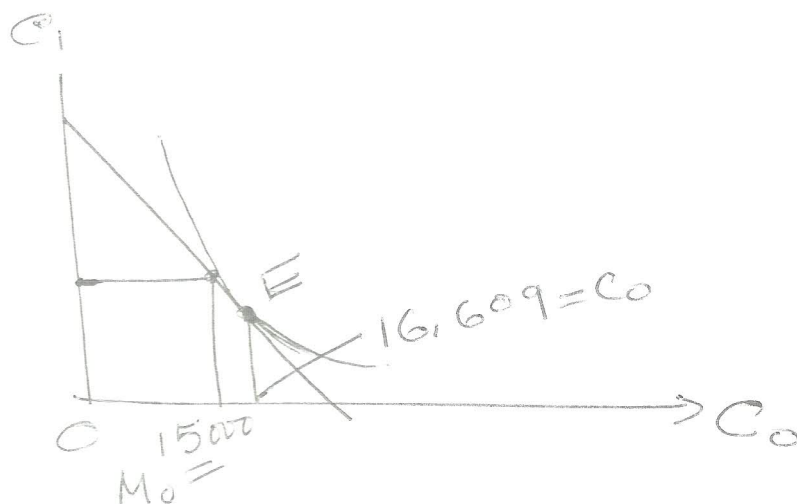
P4/4

$$34,048 = C_0 + 1.05 C_0$$

$$\text{or, } 2.05 C_0 = 34,048$$

$$C_0 = \$16,609$$

$$\therefore C_1 = 1.05(C_0) = \$17,439$$



$\therefore$  Nick would borrow \$1609