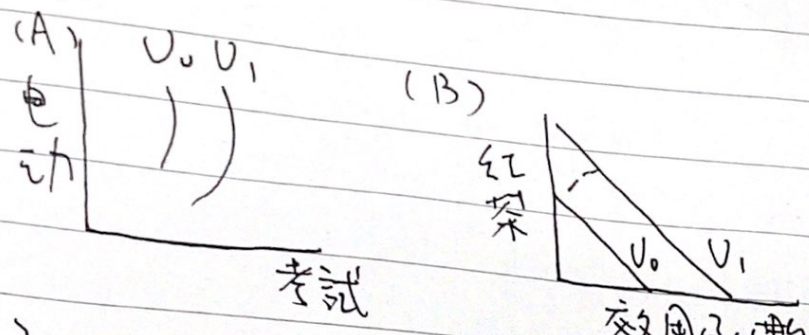
A108260015 陳政翌

一.

(1) D (2) B (3) D (4) A (5) B (6) D (7) C (8) C (9) A (10) B
(11) C (12) D (13) D (14) C (15) A (16) A

二.

1.



2. (1) $20X+10Y=300$ $U=f(X-Y)=X^{\frac{1}{3}}Y^{\frac{2}{3}}$

$$MRS_{XY}=\frac{\frac{1}{3}X^{-\frac{2}{3}}Y^{\frac{2}{3}}}{\frac{2}{3}X^{\frac{1}{3}}Y^{\frac{1}{3}}}=\frac{P_X}{P_Y}=\frac{20}{10}$$

$$\frac{1}{3}X^{\frac{1}{3}}Y^{-\frac{1}{3}}=\frac{1}{3}X^{-\frac{2}{3}}Y^{\frac{2}{3}} \qquad \frac{64}{27}XY^{-1}=\frac{1}{27}X^{-2}Y^{2}$$

$$\frac{64}{27}XY^{-1}=\frac{1}{27}X^{-2}Y^{2} \qquad \frac{64X}{27Y}=\frac{Y^2}{27X^2}$$

$$27Y^3=64X27X^3 \quad Y^3=64X^3 \quad \frac{Y^3}{X^3}=64$$

$$\left(\frac{Y}{X}\right)^3=64 \quad \frac{Y}{X}=4 \quad Y=4X$$

$$60X=300 \quad X=5 \quad Y=20$$

消費者均衡 5杯咖啡 20元包子

(2) $U = f(X-Y) = 3X+Y$

$200 = 20X+10Y$ $MRSXY = 3 > \frac{PX}{PY} = 2$

$X=15$ $Y=0$

15杯咖啡 0個包子

(1) $U = f(X-Y) = \min(X, Y)$

subject to $300 = 20X+10Y$

$2Y = X$ $2Y = X$ $X = 12$ $Y = 6$

12杯 coffee 6個包子

3. $\max U = f(X,Y) = X^{\frac{1}{3}} Y^{\frac{2}{3}}$ subject to $300 = 20X+10Y$

$X=5$ $Y=10$ 不降10元, $\max V = P(X,Y) = X^{\frac{1}{3}} Y^{\frac{2}{3}}$

subject to $300 = 10X+10Y$, $MRSXY = \frac{MU}{MY} = \frac{PX}{PY} = 1$

$Y = 2X$, $X = 10$ $Y = 20$ 價格效果 (5~10) 到 (10~20)

$V = X^{\frac{1}{3}} Y^{\frac{2}{3}} = (5)^{\frac{1}{3}} (20)^{\frac{2}{3}} = (2000)^{\frac{1}{3}}$

$Y = 2X$ 代入 $V = (2000)^{\frac{1}{3}}$ $X = (1000)^{\frac{1}{3}}$ $Y = (8)^{\frac{1}{3}} (1000)^{\frac{1}{3}} = (8000)^{\frac{1}{3}}$

所得效果 [(1000) $(8000)^{\frac{1}{3}}$] 到 (10, 20)

替代效果 ~~[(1000) $(8000)^{\frac{1}{3}}$] 到 (10, 20)~~

[$(8000)^{\frac{1}{3}}$] 到 [$(1000)^{\frac{1}{3}}$] 到 [20 - 5]

4. (1) $V = f(X-Y) = X^{\frac{1}{3}} Y^{\frac{2}{3}}$ subject to $300 = 20X+10Y$

$MRSXY = 2 \Rightarrow Y = 4X$

(2) $Y = 4X$ 代入 $20X+10Y = M$

$60X = M$ $X = \frac{M}{60}$

(1) $Y = \frac{2M}{60}$

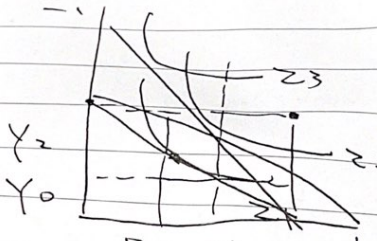
(4) $U=f(x,y)=X^{\frac{1}{3}}Y^{\frac{2}{3}}$

subject to $300=P_XX+10Y$

$MRS_{XY}=\frac{\frac{1}{3}X^{-\frac{2}{3}}Y^{\frac{2}{3}}}{\frac{2}{3}X^{\frac{1}{3}}Y^{-\frac{1}{3}}}=\frac{P_X}{10}$, $Y=\frac{4P_X}{5}X$

$300=P_XX+10(\frac{4P_X}{5}X)\Rightarrow 9P_XX=300$ $X=\frac{300}{9P_X}$

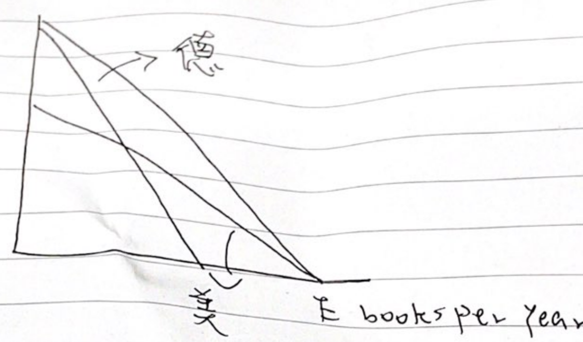
三、



價格補貼政策

可以對老人長照有效增多 某老會最喜歡價格補貼政策因為消費者對長照的購買的最多

2.



电子書和紙本書為完全替代品。

美國稅少电子書便宜，所以買电子書

德國文化、政策差異，price不同

消費行為也會不同 情況二為文

化差異 ~~German~~ 德國人喜歡

實体書 ~~有~~大於电子書。