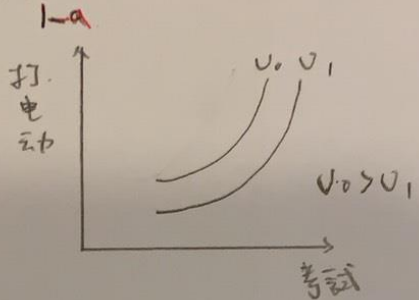


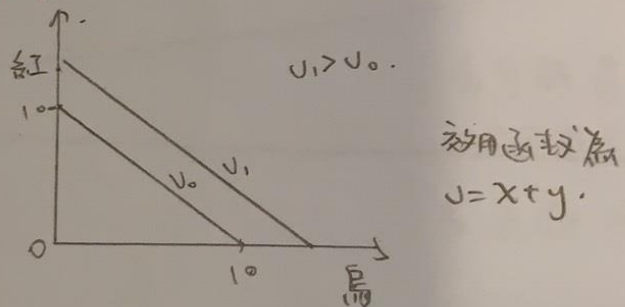
李胤澄. 經二甲 A108260093

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. b
14. c
15. a
16. b

1-a



1-b



2.

$$u) \quad 300 = 20x + 10y$$

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

$$MRS_{xy} = \frac{\frac{2}{3} x^{-\frac{1}{3}} y^{\frac{1}{3}}}{\frac{1}{3} x^{\frac{2}{3}} y^{-\frac{2}{3}}} = \frac{20}{10}$$

$$x = y \Rightarrow \begin{cases} x = 10 \\ y = 10 \end{cases}$$

$$(2) \quad U = f(x, y) = 3x + y$$

$$MRS_{xy} = \frac{3}{1} > \frac{20}{10}$$

$$\Rightarrow 4 = 20 \quad x = 15$$

15 a
16 b

$U = x + y$

(1) $300 = 20x + 10y$
 $U = f(x, y) = x^{\frac{2}{3}} y^{\frac{1}{3}}$
 $MR_{xy} = \frac{\frac{2}{3} x^{-\frac{1}{3}} y^{\frac{1}{3}}}{\frac{1}{3} x^{\frac{2}{3}} y^{-\frac{2}{3}}} = \frac{20}{10}$
 $x = y \Rightarrow \begin{cases} x = 10 \\ y = 10 \end{cases}$

(2) $U = f(x, y) = 3xy$
 $MR_{xy} = \frac{3}{1} > \frac{20}{10}$
 $\Rightarrow y = 0, x = 15$

(3) $\begin{cases} x = 2y \\ 300 = 20x + 10y \end{cases}$
 $U = f(x, y) = \min(x, 2y)$
 $\begin{cases} y = 6 \\ x = 12 \end{cases}$

(4) $30x = 11$
 $x = \frac{11}{30}$
 $\frac{2y}{x} = \frac{p_x}{p_y} \quad y = \frac{p_y x}{20}$
 $300 = p_x x + 10 \frac{p_y x}{20}$
 $x = \frac{200}{p_x}$

3. $U = x^{\frac{2}{3}} y^{\frac{1}{3}}$
 $\begin{cases} U = 300 \\ 300 = 20x + 10y \end{cases} \Rightarrow (10, 10)$
 $U = x^{\frac{2}{3}} y^{\frac{1}{3}} \Rightarrow x = 20y = 10$
 $300 = 10x + 10y \Rightarrow y = \frac{1}{2}x$

(1) $U = x^{\frac{2}{3}} y^{\frac{1}{3}} = (\frac{1}{2}x^{\frac{2}{3}})^{\frac{1}{3}} = (2000)^{\frac{1}{3}}$
 $x = (4000)^{\frac{1}{3}} \quad y = (500)^{\frac{1}{3}}$

(2) $(x, y) = (60, 10) \rightarrow (4000)^{\frac{1}{3}}, (500)^{\frac{1}{3}}$

(3) $(x, y) = (10, 10) \rightarrow (4000)^{\frac{1}{3}}, (500)^{\frac{1}{3}}$

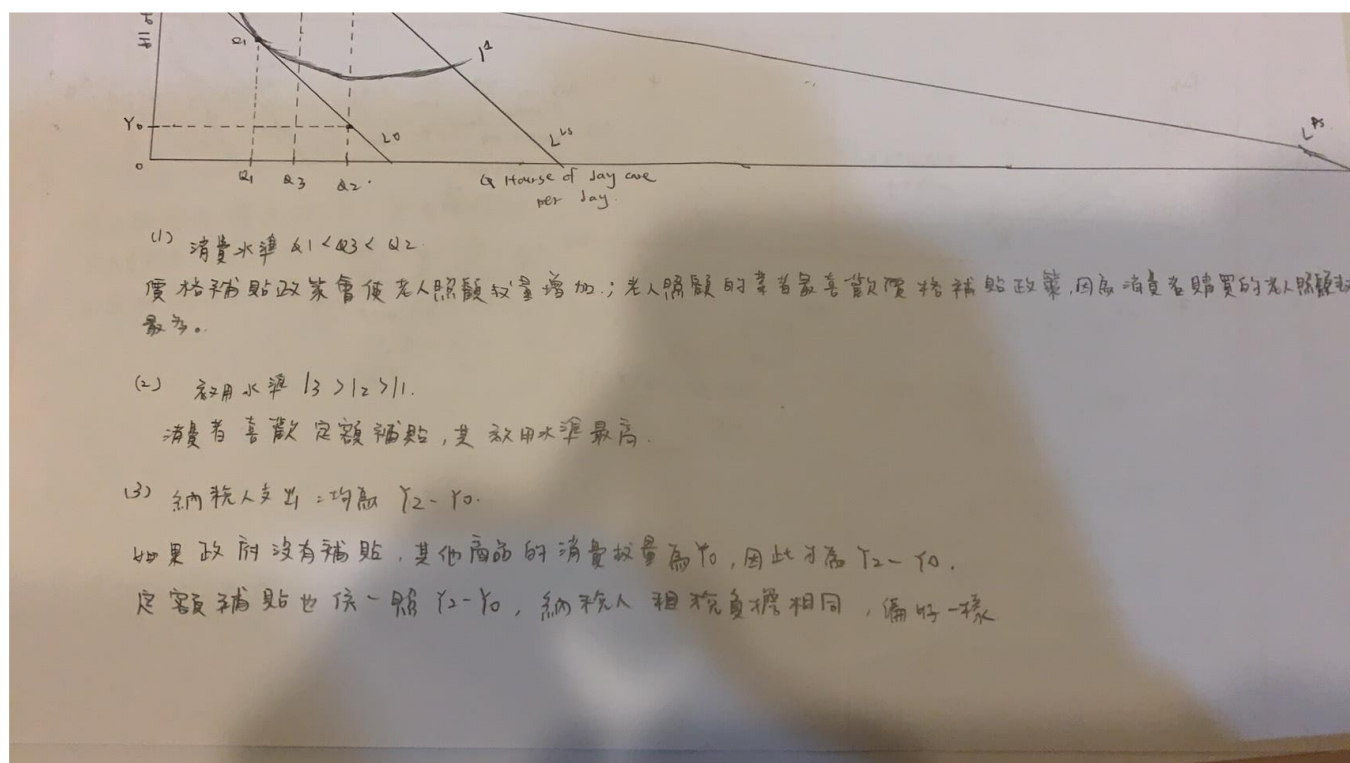
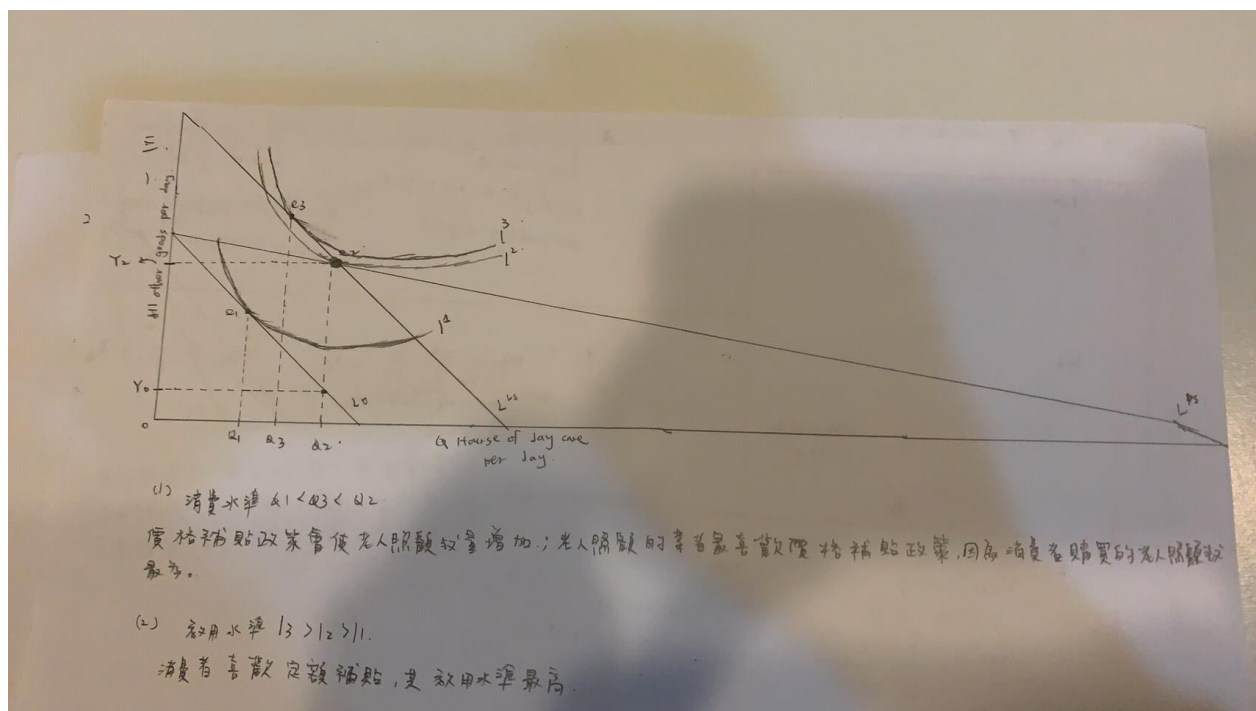
4. (1) $MR_{xy} = \frac{2y}{x} = \frac{20}{10} \quad y = x$

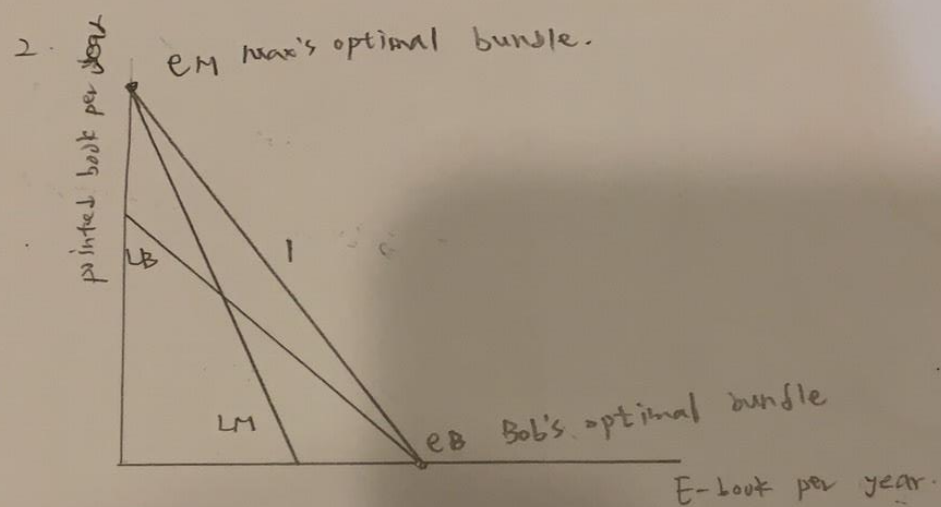
(2) $20x + 10y = 11$
 $30x = 11$
 $x = \frac{11}{30}$

(3) $MR_{xy} = \frac{2y}{x} = \frac{20}{10} \quad y = x$

(4) $\frac{2y}{x} = \frac{p_x}{p_y} \quad y = \frac{p_y x}{20}$
 $300 = p_x x + 10 \frac{p_y x}{20}$
 $x = \frac{200}{p_x}$

(5) $\begin{cases} x = 2y \\ 300 = 20x + 10y \end{cases}$
 $U = f(x, y) = \min(x, 2y)$
 $y = 6$





有可能是因價差的不同才導致銷量不同。
也有可能是因為偏好才導致此效果。
在這個例子中，價差可能更有說服力。