

5.

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$$300 = 10x + 20y$$

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

$$\text{消費決策: } \max U = f(x, y) = x^{\frac{2}{3}} y^{\frac{1}{3}}$$

$$300 = 10x + 20y$$

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

$$y = \frac{1}{4}x, \text{代回預算式 } x = 20, y = 5$$

每週 20 杯奶茶, 5 個漢堡

6.

$$120,000 = 400x + 600y$$

$$x = 20$$

$$y = 20$$

$$U = x^{\frac{1}{2}} y^{\frac{1}{2}}$$

$$MRS_{xy} = \frac{\frac{1}{2} x^{-\frac{1}{2}} y^{\frac{1}{2}}}{\frac{1}{2} x^{\frac{1}{2}} y^{-\frac{1}{2}}} = \frac{p_x}{p_y} = \frac{2}{3}$$