

EXERCISES CHAPTER 8

Exercise 1. A consumer has utility function $u(x_1, x_2) = 2x_1 + x_2$.

- (1) What is the consumer's demand for x_1 and x_2 when $m = 1200$, $p_1 = 100$, and $p_2 = 100$?
- (2) What is the new demand for x_1 and x_2 with $p_1 = 300$?
- (3) What income would the consumer need to afford the bundle from part (a) at the new prices in part (b)?
- (4) What bundle of x_1 and x_2 does the consumer demand when $p_1 = 300$ but with income from part (c)?
- (5) How much of the consumer's change in demand for x_1 between part (a) and part (b) is due to the substitution effect?
- (6) How much of the consumer's change in demand for x_1 between part (a) and part (b) is due to the income effect?

Exercise 2. A consumer has utility function $u(x_1, x_2) = \min \left\{ \frac{1}{2}x_1, x_2 \right\}$.

- (1) What is the consumer's demand for x_1 and x_2 when $m = 1200$, $p_1 = 100$, and $p_2 = 100$?
- (2) What is the new demand for x_1 and x_2 with $p_1 = 150$?
- (3) What income would the consumer need to afford the bundle from part (a) at the new prices in part (b)?
- (4) What bundle of x_1 and x_2 does the consumer demand when $p_1 = 150$ but with income from part (c)?
- (5) How much of the consumer's change in demand for x_1 between part (a) and part (b) is due to the substitution effect?
- (6) How much of the consumer's change in demand for x_1 between part (a) and part (B) is due to the income effect?

Exercise 3. A consumer has utility function $u(x_1, x_2) = x_1x_2$.

- (1) What is the consumer's demand for x_1 and x_2 when $m = 1200$, $p_1 = 100$, and $p_2 = 100$?
- (2) What is the new demand for x_1 and x_2 with $p_1 = 200$?
- (3) What income would the consumer need to afford the bundle from part (a) at the new prices in part (b)?
- (4) What bundle of x_1 and x_2 does the consumer demand when $p_1 = 200$ but with income from part (c)?
- (5) How much of the consumer's change in demand for x_1 between part (a) and part (b) is due to the substitution effect?
- (6) How much of the consumer's change in demand for x_1 between part (a) and part (B) is due to the income effect?