

Homework 2 – KEY

Average: 81.64 + Opts GI bonus

Due on 28/1/2025, by 23:00

The tasks in this assignment were designed for the average student to solve independently after mastering the material. The answers provided here are written in an instructional manner to help you understand the problem-solving process for each task. If you continue to struggle with a task after reviewing this key, the difficulty may stem not from the task itself, but from having missed or overlooked some parts of the required material.

- 1✓ Which of the following could be an example of the Law of Demand?
- A. An increase in the price of bullets decreases the quantity demanded for guns. *[Does not indicate a relationship between quantity demanded for a good and its own price]*
 - B. An increase in consumer income causes an increase in the demand for bubble tea. *[Same as above]*
 - 84%C. **An increase in the price of sushi causes a decrease in the quantity demanded for sushi.** *[The law of demand states that as the price of a good increases, its quantity demanded tends to decrease]*
 - 16%D. All of the above.
2. Which of the following goods is likely to be the most inelastic?
- 47%A. Marijuana. *[Not addictive, thus easy to substitute when price increases]*
 - 53%B. **Natural gas.** *[Hard to substitute]*
 - C. Coca cola. *[It has many substitutes]*
 - D. Special-K bars. *[They have many substitutes]*
- 3✓ Suppose that Andrew's income elasticity for jeans is 2. What will happen to his quantity demanded for jeans if his salary increases by 50%?
- A. It will halve.
 - 80%B. **It will double.**
 - 10%C. It will triple.
 - D. It will remain constant.
- $$[\epsilon_Y = \frac{\Delta Q\%}{\Delta Y\%} \text{ or } 2 = \frac{\Delta Q\%}{50\%} \text{ or } \Delta Q\% = 100\%, \text{ which means that } Q \text{ will double}]$$
- 4✓ Suppose that the price elasticity of demand for Ray-Ban sunglasses at a given quantity sold is -1.6. What should Ray-Ban do to increase revenue?
- A. Increase the price of Ray-Ban sunglasses.
 - 96%B. **Drop the price of Ray-Ban sunglasses.**
 - C. Both A and B could increase producer's revenue.
 - D. None of the above will affect revenue.
- [Ray Ban sunglasses are elastic at the given quantity, thus a decrease in price would increase revenue because quantity will increase by a higher percentage than the price cut]*

Q_A	30	80	120	150
P_B	\$160	\$120	\$90	\$70

Table 2.1: The price of good B and the corresponding quantity demanded of good A.

5✓ According to table 2.1, what is the cross-price elasticity between goods A and B, when the price of good B decreases from \$120 to \$90?

- A. Around -4.
- 80%B. Around -2.
- 14%C. Around -1.
- D. Around 1.
- E. Around 2.
- F. Around 4.

[The percentage change in good B's price is $\frac{90-120}{120} = -25\%$ and the corresponding percentage change in good A's quantity demanded is $\frac{120-80}{80} = 50\%$. So, $e_{A,B} = \frac{50\%}{-25\%} = -2$]

6✓ According to table 2.1, which of the following pair of goods most likely corresponds to goods A and B?

- A. Orange juice; apple juice. [They are substitutes]
- B. Beef; poultry. [They are substitutes]
- 89%C. Airpods; iPhones. [Airpods and iPhones are complements. Since the decrease in the price of B leads to an increase in quantity demanded of A, these goods must also be complements]
- D. Condoms; fishing poles. [Uncorrelated goods]

7. In the last years, the price of EVs decreased by 30%, while the price of conventional cars remained constant. Which of the following is true for the opportunity cost of a conventional car in terms of EVs?

- A. It has not changed.
- 67%B. It has increased.
- 26%C. It has decreased.

[The OC of a conventional car in terms of EVs measures how many EVs are foregone in order to buy a conventional car. Since the price of EVs decreased, the OC of conventional cars increased]

8✓ Which of the following would cause the demand curve for instant coffee to shift to the left?

- 20%A. The release of multiple studies linking instant coffee to increasing probability of heart attacks. [This would indeed make people drink less instant coffee regardless of its price]
- B. A decrease in the price of espresso coffee. [This could also make people drink less instant coffee regardless of its price]
- 78%C. Both A and B.
- D. None of the above.

9✓ Which of the following would bring the least tax revenue to the state if an excise tax is imposed on that good?

- A. Alcohol. [It is a price inelastic good]
- B. Cigarettes. [Price inelastic too]
- C. Gasoline. [Also price inelastic]
- 97%D. Whole milk.

[Because whole milk is known to be price elastic good, so when its price increases due to taxation, the decrease in its quantity demanded will be relatively bigger, thus revenue and total paid tax will most probably decrease (see also tutorial video 2)]

10. ✓ Demand for plane tickets is $p = 5,000 - 2q$. At which quantity (q) is the elasticity of demand equal to -4?

A. Around 250.

89% B. **Around 500.**

C. Around 750.

D. Around 1000.

[We can use the formula for elasticity from practice set 2: $\epsilon_d = 1 - \frac{a/b}{q}$ or $-4 = 1 - \frac{5000}{2q}$ or

$\frac{5000}{2q} = 5$ or $2q = 1000$ or $q = 500$]