Practice Set 2

Consumer Choice & Demand

This set contains problems for your own practice. It is highly recommended to work on the problems on your own. Do not just read the provided solutions. Instead, try to solve the problems and use the solutions only when you cannot continue on your own. Reading problems that someone else has solved has the same value for your preparation like watching someone else running a marathon on TV and then expecting to be able to run it, too. If you have questions on this set, please ask your section's teaching assistant.

1. Nicolette's price and weekly quantity correspondence for bubble tea is given in the following table.

Price	\$1	\$2	\$3	\$4	\$5	\$6	\$7
Cups per week	8	6	5	4	3	2	1

   (a) Does Nicolette's demand follow the *law of demand*?

   (b) How much will her *demand* increase if the price decreases from \$5 to \$4?

   (c) How would an *increase* in Nicolette's *demand* be represented in the table above?

   (d) Nicolette also likes Frappuccino. Could a decrease in the price of Frappuccino from \$5 to \$4, affect her demand for bubble tea?

   (e) Name 3 factors that could cause Nicolette's *demand* for bubble tea to *decrease*.

2. Marianna was surveyed on two different dates regarding her purchasing habits for mosquito repellent spray.

Price	\$1	\$1.5	\$2	\$2.5	\$3	\$3.5	\$4
Bottles (13/4/2024)	5	4	3	3	2	2	1
Bottles (22/6/2024)	5	4	4	3	2	2	1

   Can we say that her demand for mosquito repellent spray has increased?

3. Dwight's demand for beetroot is given by $p = 100 - 4q$, where p is the price in dollars and q is the quantity in lbs.

   (a) Does Dwight's demand follow the law of demand?

   (b) Provide a possible demand equation where Dwight's demand has increased.

   (c) Provide a possible demand equation where Dwight's demand has decreased.

4. What kind of good would you expect to exhibit an almost *vertical* demand curve?

5. What kind of good would you expect to exhibit an almost *horizontal* demand curve?

6. It is mathematically proven that for every linear demand function $p = a - bq$, where p is the price, q is the quantity and a, b are given constants, the elasticity of demand at any quantity q, is given by

$$\varepsilon_d = 1 - \frac{a/b}{q}.$$

   (a) For the demand equation $p = 120 - 4q$, calculate the elasticity of demand at $q = 20$.

   (b) For the demand equation $p = 120 - 4q$, calculate the quantity for which $\varepsilon_d = -1$.

7. True or false? An inelastic linear demand curve should be inelastic at every of its points; and an elastic linear demand curve should be elastic at every of its points.

8. True or false? The elasticity of a linear demand is the gradient of the demand.