eLearneconomics: Utility – Deriving Demand (1)

Student response

(a) Complete the table below.

Alan's Utility Schedule for Pizza (per day)		
Number of pizzas	Total utility (cents)	Marginal utility (cents)
1	500	
2	900	
3		250
4	1 300	
5		100

(b) Use the information in the table above to draw Alan's demand schedule for pizza per day.

(c) Define the law of diminishing marginal utility.

_____

_____

_____

_____

_____

(d) Use the law of diminishing marginal utility to help you to explain why demand curves usually slope downwards to the right.

_____

_____

_____

_____

_____

_____

_____

_____

_____

Solutions

(a) Complete the table below.

Alan's Utility Schedule for Pizza (per day)		
Number of pizzas	Total utility (cents)	Marginal utility (cents)
1	500	500
2	900	400
3	1 150	250
4	1 300	150
5	1 400	100

(b) Use the information in the table above to draw Alan's demand schedule for pizza per day.

Alan's Demand Schedule for pizza per day	
Price ($)	Quantity Demanded
1.00	5
1.50	4
2.50	3
4.00	2
5.00	1

(c) Define the law of diminishing marginal utility.

The law of diminishing marginal utility states that as quantity consumed increases the extra satisfaction (MU) from consuming an extra unit decreases.

(d) Use the law of diminishing marginal utility to help you to explain why demand curves usually slope downwards to the right.

The price consumers are prepared to pay for a good depends on the marginal utility they receive from it (i.e., there is a relationship between price and marginal utility / consumer will continue to consume up to the point where P = MU).
Since MU falls as quantity increases (i.e., the law of diminishing MU) consumers will only buy larger quantities if the price falls to match their lower MU.
A demand curve must slope downward to the right with lower prices matching lower MUs of larger quantities consumed.

Student response

(a) Complete the table below by filling in the missing numbers.

Mark Cambo's Utility Schedule for DVDs		
Quantity Consumed	Total utility (cents)	Marginal utility (cents)
1	1 000	
2		800
3	2 200	
4		100

(b) Use your completed table to plot Mark Cambo's demand curve for DVDs on the grid below.

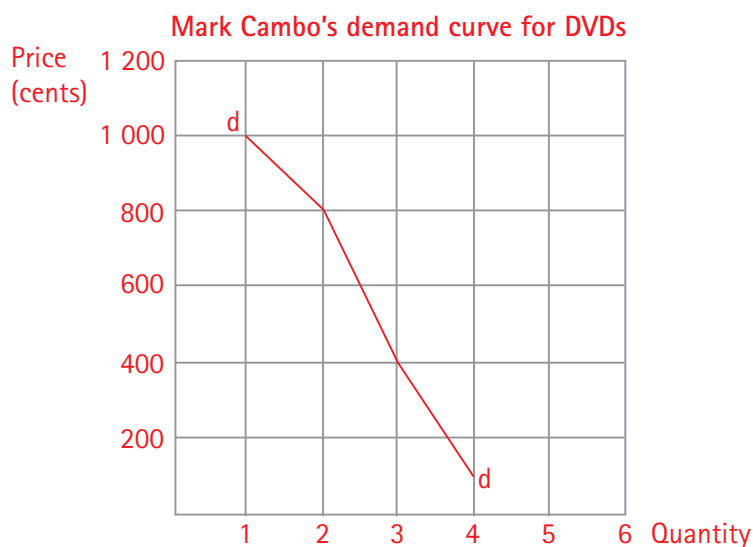**(c)** Use marginal utility to explain why Mark Cambo purchases more DVDs when the price of DVDs falls.

Solutions

(a) Complete the table below by filling in the missing numbers.

Mark Cambo's Utility Schedule for DVDs		
Quantity Consumed	Total utility (cents)	Marginal utility (cents)
1	1 000	1 000
2	1 800	800
3	2 200	400
4	2 300	100

(b) Use your completed table to plot Mark Cambo's demand curve for DVDs on the grid below.

Mark Cambo's demand curve for DVDs

(c) Use marginal utility to explain why Mark Cambo purchases more DVDs when the price of DVDs falls.

Mark will purchase DVDs until he reaches the point where P = MU (optimal purchase rule). When the price of DVDs falls, P < MU, there is an incentive for Mark to increase his consumption of DVDs. As he consumes additional units, MU will fall. Consequently, consumer equilibrium will be restored at a lower price and a corresponding lower marginal utility (P´ = MU´). A rational consumer (like Mark) will therefore increase the quantity he purchases when the price of a good falls.