1.6 Rational Decision Making and the Theory of Diminishing Marginal Utility: Test Pack

AQA 7136 · Calculators not allowed · about 15 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer all questions. Full sentences are required for Q1, Q2, Q6, Q10, Q11 and Q13. Do simple arithmetic without a calculator where asked. Show working for calculations.

1 Define the term 'utility' as used in consumer choice theory in microeconomics, naming the unit if appropriate. Context: an individual choosing how much coffee to drink in a day.

(Total for Question 1 is 1 mark)

2 Apply marginal utility to pricing choice: A consumer faces a market price of £3 for a sandwich. Their MU for the 1st to 4th sandwich are 9, 6, 3, 1 utils respectively. State how many sandwiches the consumer will buy and explain why, showing the comparison MU versus price and converting utils to willingness-to-pay by assuming 1 util = £1/3 for this example.

(Total for Question 2 is 5 marks)

3 State the rational decision-making assumption about consumer preferences in the utility-maximisation model used in microeconomics, as applied to a shopper choosing between snacks.

(Total for Question 3 is 1 mark)

4 Explain what is meant by marginal utility (MU) and how it relates to total utility (TU) for an individual consumer making repeated purchases of the same good, for example slices of pizza.

(Total for Question 4 is 1 mark)

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5 Give one realistic assumption made about consumers in the utility-maximisation model besides transitive preferences, naming the assumption clearly, in the context of buying groceries weekly.

(Total for Question 5 is 1 mark)

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6 Explain two limits to the assumption that consumers always maximise utility when making everyday small purchases, as used in microeconomic rational choice theory. Use two distinct brief points.

(Total for Question 6 is 2 marks)

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Mark scheme · 1.6 Rational Decision Making and the Theory of Diminishing Marginal Utility: Test Pack

Question 1

a measure of satisfaction or benefit a consumer gains from consuming a good or service, measured in hypothetical units called utils or as 'utility' **B1**

Answer: Satisfaction or benefit from consuming a good or service, measured in utils (hypothetical units).

Question 2

converts MU into willingness-to-pay: 1 util = £1/3 so WTPs are 9*(1/3)=£3, 6*(1/3)=£2, 3*(1/3)=£1, 1*(1/3)=£0.33 **M1**

compares WTP to market price £3 for each unit **M1**

identifies that for the 1st sandwich WTP = £3 ≥ price £3 so consumer will buy the 1st **A1**

identifies that for the 2nd sandwich WTP = £2 < price £3 so consumer will not buy the 2nd (and similarly will not buy further units) **B1**

concludes the consumer purchases 1 sandwich because only the first unit has WTP ≥ market price **B1**

Answer: WTPs: £3, £2, £1, £0.33. Only the 1st sandwich has WTP ≥ £3, so the consumer buys 1 sandwich.

Question 3

consumers are assumed to make consistent choices to maximise their total utility given their budget constraint, with preferences that are transitive and complete **B1**

Answer: Consumers choose consistently to maximise total utility given their budget, with transitive and complete preferences.

Question 4

marginal utility is the additional utility from consuming one more unit, and TU is the sum of all marginal utilities up to that quantity, so MU = change in TU **B1**

Answer: MU is the extra utility from one more unit; TU equals the cumulative sum of MU, so MU = change in TU.

Question 5

identifies one assumption, e.g. consumers face a budget constraint, or preferences are complete, or prices are known **B1**

Answer: Example: consumers face a budget constraint and cannot spend beyond their income.

Question 6

first valid limitation, e.g. choices may be influenced by habit, convenience or time pressure so consumers may satisfice rather than maximise **B1**

second valid limitation, e.g. limited information or cognitive costs mean consumers cannot always identify or compute the utility-maximising option **B1**

Answer: E.g. consumers may satisfice due to habit or time pressure; limited information and cognitive effort can prevent full utility maximisation.

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