1.8 Production, Productivity and the Law of Diminishing Returns: 10-minute Pack

Total Marks

AQA 7136 · Calculators not allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer all questions in full sentences where indicated. Diagrams should be drawn and labelled carefully. No calculator is allowed. Show working for any arithmetic.

1 Multiple choice: In a short-run production setting for a small bakery in Sheffield, which statement best describes marginal product (MP) of labour?

(a) Select the single best option. **(1)**

- ☐ A: MP is the additional total output produced when the last worker is employed
- ☐ B: MP is the total output divided by the number of workers
- ☐ C: MP is the total output of the bakery in a year
- ☐ D: MP is the maximum possible output when all factors are variable

(Total for Question 1 is 1 mark)

2 Explain in two concise points the difference between 'production' and 'productivity' for a manufacturing firm in Sheffield that increases staff.

(Total for Question 2 is 3 marks)

3 Briefly state and explain the three types of returns to scale (increasing, constant, decreasing) as the long-run counterpart to short-run diminishing returns, giving one short example for each type.

(Total for Question 3 is 3 marks)

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Mark scheme · 1.8 Production, Productivity and the Law of Diminishing Returns: 10-minute Pack

Question 1

(a) selecting option A **B1**

(a) Answer: A

Question 2

production refers to the total quantity of goods produced (total product), e.g. number of widgets made **B1**

productivity refers to output relative to input, e.g. output per worker or per hour **B1**

a correct contrast: production can increase simply by using more inputs, while productivity is about how efficiently inputs are used and can rise even if production stays the same **B1**

Answer: Production is the total quantity produced; productivity is output per unit of input. Production can rise by adding more workers, whereas productivity measures efficiency and can rise without increasing total production.

Question 3

increasing returns to scale: when all inputs are increased by a given proportion output increases by a greater proportion, example: a factory doubles inputs and more than doubles output due to specialisation **B1**

constant returns to scale: when all inputs increase by a given proportion output increases by the same proportion, example: a firm doubles all inputs and output doubles **B1**

decreasing returns to scale: when all inputs increase by a given proportion output increases by a smaller proportion, example: coordination problems as firm becomes too large cause less efficient expansion **B1**

Answer: Increasing: outputs rise by more than inputs, e.g. gains from specialisation. Constant: outputs rise in same proportion as inputs, e.g. a firm doubles all inputs and output doubles. Decreasing: outputs rise by less, e.g. management/coordination issues in a very large firm.

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