

Revenue, Costs and Profits — Worksheet

Revenue and price elasticity of demand · diminishing returns · short-run and long-run costs · economies and diseconomies of scale · profits, losses and the decision to stop producing

Name: _____

Class: _____

Date: _____

DEFINE minimum efficient scale · **CALCULATE** average variable cost, marginal cost and marginal revenue · **CLASSIFY** a change in cost as an internal economy, an external economy or a diseconomy of scale · **ANALYSE** when a firm that makes a loss keeps producing · **DISCUSS** whether a firm should cut its price to raise its revenue · **EVALUATE** how far a firm's long-run average cost falls as it grows

Sitting 1 — Topic practice

30 marks

MULTIPLE CHOICE Task 1 — Six questions on revenue, costs and profits

6 marks

Choose one answer for each question.

1. A firm sells 20 units a day at \$10 each. To sell 30 units a day, it must charge \$9 for every unit. What is its marginal revenue per extra unit?

- A \$7
- B \$9
- C \$70
- D \$1

Answer:

2. A café cuts the price of a sandwich from \$5 to \$4. The quantity demanded rises from 200 to 220 sandwiches a day. Nothing else changes. What is the price elasticity of demand?

- A -0.5
- B -2
- C -20
- D -1

Answer:

3. The law of diminishing returns applies:

- A in the short run, because at least one factor is fixed
- B in the long run, because the firm has grown too large to manage
- C in both periods, whenever output rises
- D only when the wage a firm pays is rising

Answer:

4. Farid pays every worker in his toy workshop \$100 a day. His second worker's marginal product is 25 toys a day. What is the marginal cost of each of those toys?

- A \$4
- B \$0.25
- C \$100
- D \$2,500

Answer:

5. A firm is earning supernormal profit. This means:

- A average revenue is above average variable cost
- B it is earning more than it did last year
- C average revenue is above average cost
- D total revenue is above total fixed cost

Answer:

6. A firm's marginal cost curve crosses its average variable cost curve at \$6. It crosses its average cost curve at \$10. What is the price at its short-run shutdown point, and at its long-run shutdown point?

- A \$6 in the short run and \$10 in the long run
- B \$10 in the short run and \$6 in the long run
- C \$6 in both the short run and the long run
- D \$10 in both the short run and the long run

Answer:

DEFINE Task 2 — The meaning of minimum efficient scale

2 marks

Define the term minimum efficient scale.

minimum efficient scale

Why does minimum efficient scale matter for the number of firms in a market? (practice, not marked)

EXPLAIN Task 3 — A lower ticket price at a cinema

4 marks

A cinema in the town of Laro lowers its ticket price from \$10 to \$8. The price elasticity of demand for its tickets is -2 .

Explain the likely effect of the lower price on the cinema's total revenue.

Start with what the price elasticity of demand tells you.

CLASSIFY Task 4 — Changes in cost as Kasa Furniture grows

8 marks

Kasa Furniture makes tables and chairs in the town of Edra. Over five years, Kasa grows much larger, and more furniture firms open in Edra.

Classify each change as one type from the key.

Key: Internal economy of scale · External economy of scale · Diseconomy of scale

#	What happens	Type
1	Kasa buys a larger machine that makes three times as many chairs for twice the running cost	
2	Kasa's wood supplier gives a lower price per tonne, because Kasa now orders much more wood	
3	Kasa employs a specialist sales manager, so the owner no longer does every job herself	
4	Edra's college opens a course to train workers for its many furniture firms, so Kasa hires trained workers	
5	A new road is built to carry Edra's growing furniture trade to the port, so Kasa's delivery cost per chair falls	
6	Workers who move between Edra's furniture firms share ideas that help every firm waste less wood	
7	Kasa's orders now pass through three managers before they reach a worker, and some arrive late or changed	
8	In the much larger Kasa, a manager keeps paying a supplier a high price for glue, and nobody notices	

CALCULATE Task 5 — Two costs per cake at a bakery

4 marks

Lumo Bakery bakes cakes in one kitchen. Its total fixed cost is \$500 a day. Its total cost is \$2,500 a day at 200 cakes a day, and \$3,250 a day at 250 cakes a day.

Calculate Lumo Bakery's average variable cost at 250 cakes a day and its marginal cost per cake from 200 to 250 cakes.

Average variable cost at 250 cakes

Workings

Answer: \$

Marginal cost per cake from 200 to 250 cakes

Workings

Answer: \$

Write each formula first, then use the figures from the case.

ANALYSE Task 6 — A boat-trip firm that makes a loss

6 marks

Veda Tours runs boat trips on a lake. A new rival opens, and the price Veda gets falls to \$30 a trip. Veda's lowest average variable cost is \$24 a trip. Its lowest average cost is \$36 a trip.

Analyse what Veda Tours is likely to do in the short run and in the long run.

Knowledge — when a firm should stop producing (2)

Application — use Veda's price and costs (2)

Analysis — your chain of reasoning (2)

Sitting 2 — Mock section

54 marks

Source: Orsa Bricks

- 1 Orsa Bricks makes clay bricks in one factory in the region of Sarn. Bricks are heavy, so construction firms in Sarn buy most of their bricks from makers nearby. Orsa sells its bricks in packs. To sell more packs, it must charge a lower price for every pack.
- 2 The factory cannot be made larger this year. To make more bricks, Orsa adds teams of workers in the same factory. Every team costs Orsa the same in wages, but each new team adds fewer packs than the team before. Figure 1 shows Orsa's revenue and costs at four monthly outputs. Total cost includes the normal profit that Orsa's owners need. The managers choose the output that makes the most profit, 6,000 packs a month.
- 3 The sales director wants to cut the price to \$180 a pack. She says a lower price would bring Orsa more customers before a rival firm opens in Sarn next year. Orsa also plans to build a second, much

larger factory in 2027. A larger factory uses less fuel for each brick, and clay suppliers give lower prices on large orders. But construction firms in Sarn expect fewer new homes to be built next year.

Figure 1: Orsa Bricks, four possible monthly outputs

Output (packs a month)	Price per pack (\$)	Total revenue (\$)	Total cost (\$)
5,000	240	1,200,000	790,000
6,000	220	1,320,000	900,000
7,000	200	1,400,000	1,030,000
8,000	180	1,440,000	1,190,000

CALCULATE Task 7 — Revenue at a larger output

2 marks

Using Figure 1, calculate Orsa's marginal revenue per pack when output rises from 5,000 to 6,000 packs a month.

Workings

Answer: \$

EXPLAIN Task 8 — More teams in the same factory

4 marks

With reference to the source, explain why Orsa's marginal cost rises as it makes more packs in the same factory.

ANALYSE Task 9 — A larger factory and the cost of a brick

6 marks

With reference to the source, analyse how a second, much larger factory could lower Orsa's long-run average cost.

Knowledge — define economies of scale and name two sources (2)

Application — two facts about Orsa from the source (2)

Analysis — two chains, one for each source (2)

EXAMINE

Task 10 — The effect of lower demand on profit

8 marks

With reference to the source, examine the effect of a fall in demand on Orsa's profit, illustrating your answer with an appropriate diagram.

Diagram

Knowledge — draw and label the diagram: AR, MR, AC and MC, before and after the fall in demand (2)

Application — use two facts or numbers from the source (2)

Analysis — one chain from the fall in demand to Orsa's profit (2)

Evaluation — say what the effect depends on (2)

DISCUSS Task 11 — Cutting the price to \$180 a pack

14 marks

With reference to the source, discuss whether Orsa should cut its price to \$180 a pack, illustrating your answer with an appropriate diagram.

Diagram

Knowledge — draw and label the diagram: AR, MR, AC and MC, with the output now and the output at \$180; one idea for the cut and one against (2)

Application — use one number from Figure 1 for the price cut and one against (2)

Analysis — two chains, one for the price cut and one against (4)

Evaluation — weigh the two chains and say what the answer depends on (6)

EVALUATE Task 12 — Growing larger and the cost of a car

20 marks

Car makers in many countries are merging. They say that a larger firm can build each car at a lower cost. Evaluate the extent to which a car maker's long-run average cost falls as it grows, illustrating your answer with an appropriate diagram.

Diagram

Knowledge — define economies of scale and name two of their sources (3)

Application — apply each source to a car maker (3)

Analysis — draw the long-run average cost diagram, then one chain for a fall in cost and one for a rise (6)

Evaluation — weigh the two chains, say what the answer depends on, and judge (8)

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins or other markings on the paper.

EVALUATE **Task 13 – Your judgement in one sentence** *Not marked. One sentence: your judgement on Task 12.*

Write the one sentence that answers Task 12's question.



This sheet and its answers online: revvylearn.com/w/e3-revenue-costs-profits

Answers and mark scheme: [revvylearn.com/w/e3-revenue-costs-profits/answers](https://www.revvylearn.com/w/e3-revenue-costs-profits/answers)

Marks and levels follow the IAL Economics paper; mark your work against the answers page - this is not Edexcel's marking.

Revision 00740b3a