Exercise walk-through

Firms' Short-Run Decisions to Produce and Long-Run Decisions to Enter or Exit a Market ▪ 3.6

eXercise

You must be able to

- apply the **shut-down rule 停产法则** in the short run
- explain why a firm operates at a loss when price exceeds **average variable cost**
- explain the long-run decision to **exit** when price is below **average total cost**
- explain how economic profits attract **entry** and losses cause **exit**

Method — The shut-down rule (short run)

Keep producing if $P \geq AVC$; **shut down** if $P < AVC$. Above AVC, the firm at least covers its variable costs and part of its fixed costs.

Method — The exit rule (long run)

Exit the market if $P < ATC$ (it makes a loss with no fixed costs to worry about).

Method — Entry and exit

Economic **profits** attract **entry**; economic **losses** cause **exit**. A firm breaks even (normal profit) where $P =$ minimum ATC.

Practice 2.1 ▪ 1 mark

State the short-run shut-down rule.

Solution 2.1

Method: The shut-down rule (short run)

Worked steps

produce if price is at least AVC; shut down if price is below AVC B1.

Practice 2.2 ▪ 1 mark

State when a firm should exit a market in the long run.

Solution 2.2

Method: The exit rule (long run)

Worked steps

when price is below average total cost **B1**.

Practice 2.3 ▪ 1 mark

State what happens to a market when existing firms earn economic profits.

Solution 2.3

Method: Entry and exit

Worked steps

new firms enter, raising supply until profits fall to normal **B1**.

Exam-style 3.1 ▪ 1 mark

A firm should shut down in the short run if price is below

A average total cost

B average variable cost

C marginal cost

D average fixed cost

Solution 3.1

Method: The shut-down rule (short run)

A average total cost

B average variable cost ✓

C marginal cost

D average fixed cost

Worked steps

B.

Exam-style 3.2 ▪ 1 mark

In the long run, economic profits attract

- **A** exit
- **B** entry
- **C** shut-down
- **D** no response

Solution 3.2

Method: Entry and exit

A exit

B entry ✓

C shut-down

D no response

Worked steps

B.

Exam-style 3.3 ▪ 1 mark

A firm faces $P = \$8$, $AVC = \$6$, and $ATC = \$10$.
(a) State whether it should produce or shut down in the short run.
(b) Explain why.
(c) State its long-run decision.

Solution 3.3

Method: The shut-down rule (short run)

Worked steps

(a) produce B1. (b) $P = \$8 > AVC = \$6$, so it covers all variable cost plus some fixed cost, losing less than by shutting down B1. (c) exit — $P < ATC$, so it makes a loss in the long run B1.