

Exercise walk-through

3.7

Perfect Competition

AP Microeconomics

Perfect competition: can one seller raise the price?

A market has many small firms, identical products, **free entry/exit** and perfect information. Buyers can buy the same product elsewhere at \$12.

One firm's decision

One firm posts \$13 while all others keep charging \$12 and can supply the buyers. What happens to its sales and revenue?

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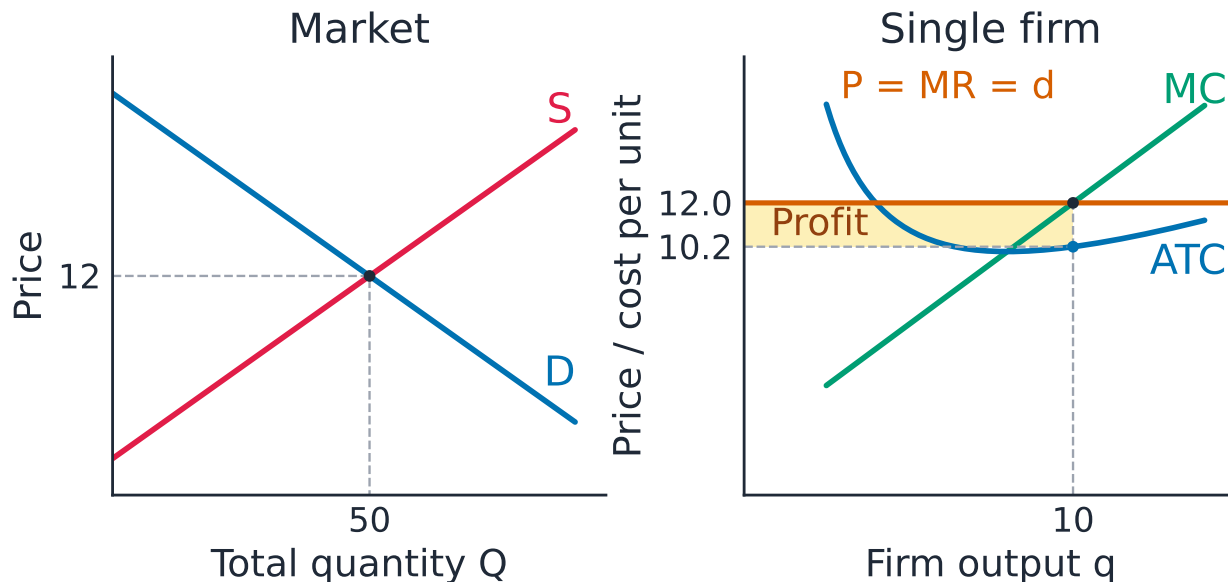
One firm's decision

One firm posts \$13 while all others keep charging \$12 and can supply the buyers. What happens to its sales and revenue?

Buyers choose the identical cheaper product: this firm sells nothing and earns zero revenue. It cannot raise the market price by changing its own price.

A **price taker** faces horizontal firm demand at the market price: $P = AR = MR$. The whole market's demand curve still slopes down.

The market price becomes the firm's marginal revenue



Market: $P = 12$. Firm: $MC = 2 + q = 12$ gives $q = 10$. Read ATC at that output, not at its minimum; the shaded area is economic profit.

One cost function, three market prices

Keep $TC = 32 + 2q + \frac{1}{2}q^2$ and $MC = 2 + q$. For each price, choose $q = P - 2$, then compare revenue with total cost.

Market price	12	10	8
Best positive output q	10	8	6
$TR = Pq$	120	80	48
$TC = 32 + 2q + \frac{1}{2}q^2$	102	80	62
$\pi = TR - TC$	18	0	-14

Profit, normal profit and operating loss can all occur in the short run. At P12, $(P - ATC)q = (12 - 10.2)10 = \$18$. At P10, q8 is also minimum ATC.

Demand rises: trace the market and the firm

Initially the market is in long-run equilibrium at \$10; the typical firm's output is 8. A permanent demand increase raises the short-run market price to \$12.

Draw both graphs before the explanation

On market axes show the demand shift and new equilibrium. On separate firm axes show the new horizontal MR line, output and profit rectangle. Does the firm's MC curve shift just because product demand rises?

Exercises 2.1-2.3

2.1 List two characteristics of a perfectly competitive market.

[2]

2.2 State why a competitive firm is a price taker.

[1]

2.3 State the long-run profit level in perfect competition.

[1]

Exercises 2.1-2.3

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- any two of: many firms, identical products, free entry and exit, perfect information
-

2.2 State why a competitive firm is a price taker. [1]

2.2

- it is too small to affect the market price, so it takes the price as given
-

2.3 State the long-run profit level in perfect competition. [1]

2.3

- normal profit (zero economic profit)

Exercises 3.1-3.2

3.1 A perfectly competitive firm's demand curve is

[1]

☐

A downward-sloping

B perfectly elastic (horizontal)

C vertical

D upward-sloping

3.2 In long-run equilibrium, a competitive firm produces where P equals

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☐

A $MC = \text{minimum } ATC$

B a value above ATC

C a value below AVC

D a point where $MR > MC$

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- D a point where $MR > MC$

3.2 A

- $MC = \text{minimum } ATC$.

Exercise 3.3 (a)

3.3 A competitive firm sells at the market price of \$10.

(a) State its marginal revenue.

[1]

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(a)

- \$10 (equal to the price)

Exercise 3.3 (b)

3.3 A competitive firm sells at the market price of \$10.

(b) State whether it can raise its price above \$10, and why.

[1]

Exercise 3.3 (b)

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(b) State whether it can raise its price above \$10, and why.

[1]

(b)

- no – products are identical, so buyers would switch to rivals

Exercise 3.3 (c)

3.3 A competitive firm sells at the market price of \$10.

(c) State its long-run economic profit.

[1]

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(c)

- zero economic profit (normal profit)