

Exercise walk-through

Monopoly ■ 4.2

eXercise

You must be able to

- explain why a **monopoly** 垄断 is a price maker whose **marginal revenue** lies below its demand
- determine the profit-maximizing quantity and price using $MR = MC$
- identify the **deadweight loss** 无谓损失 a monopoly creates
- describe a **natural monopoly** 自然垄断

Method — Price maker

To sell more, a monopolist must **lower its price** on all units, so **marginal revenue lies below** the demand curve.

Method — Profit maximization

Produce where $MR = MC$, then read the **price** off the **demand** curve above that quantity.

Method — Inefficiency and natural monopoly

A monopoly produces where $P > MC$, so it is **allocatively inefficient** and creates a **deadweight loss**. A **natural monopoly** has such large fixed costs that one firm is the least-cost producer.

Practice 2.1 ■ 1 mark

State why a monopolist's marginal revenue lies below its demand curve.

Solution 2.1

Method: Price maker

Worked steps

to sell an extra unit it must lower the price on all units, so the added revenue is less than the price **B1**.

Practice 2.2 ■ 1 mark

State the rule a monopolist uses to choose its quantity.

Solution 2.2

Worked steps

produce where marginal revenue equals marginal cost **B1**.

Practice 2.3 ■ 1 mark

State why a monopoly is allocatively inefficient.

Solution 2.3

Method: Inefficiency and natural monopoly

Worked steps

it produces where price exceeds marginal cost, so some beneficial units are not made

B1.

Exam-style 3.1 ■ 1 mark

A monopoly maximizes profit where

A $P = MC$

B $MR = MC$

C $P = ATC$

D $MR = 0$

Solution 3.1

A $P = MC$

B $MR = MC$ 

C $P = ATC$

D $MR = 0$

Worked steps

B.

Exam-style 3.2 ■ 1 mark

A monopoly is allocatively inefficient because it produces where

A $P = MC$

B $P > MC$

C $P < MC$

D $P = 0$

Solution 3.2

Method: Inefficiency and natural monopoly

A $P = MC$

B $P > MC$



C $P < MC$

D $P = 0$

Worked steps

B.

Exam-style 3.3 ■ 1 mark

A monopolist produces where $MR = MC$ at $Q = 40$, charging $P = \$25$ (from demand), with $ATC = \$18$.

- (a) Find the economic profit per unit.
- (b) Find the total economic profit.
- (c) State why the monopoly creates a deadweight loss.

Solution 3.3

Method: Inefficiency and natural monopoly

Worked steps

(a) $25 - 18 = \$7$ **B1**. (b) $7 \times 40 = \$280$ **B1**. (c) it underproduces (relative to $P = MC$), so mutually beneficial trades are lost **B1**.