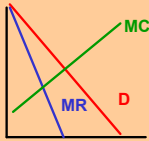


Competition and Monopoly II

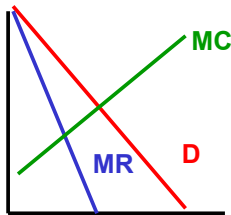


The Problem – Part III

- Acme Widgets is given a legal monopoly to produce widgets
- Find P , Q , N , π .

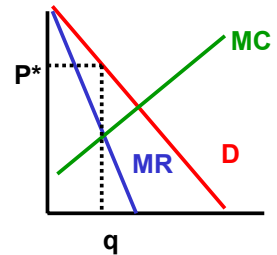
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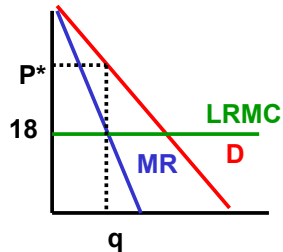
The Problem – Part III

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The Problem – Part III

- Acme Widgets is given a legal monopoly to produce widgets
- Find P , Q , N , π .



Finding Revenue

$$Q = 600 - 10P$$

Finding Revenue

$$Q = 600 - 10P$$

$$10P = 600 - Q$$

Finding Revenue

$$Q = 600 - 10P$$

$$10P = 600 - Q$$

$$P = 60 - 0.1 Q$$

Finding Revenue

$$Q = 600 - 10P$$

$$10P = 600 - Q$$

$$P = 60 - 0.1 Q$$

$$R = PQ$$

Finding Revenue

$$Q = 600 - 10P$$

$$10P = 600 - Q$$

$$P = 60 - 0.1 Q$$

$$R = PQ$$

$$R = [60 - 0.1Q]Q$$

Finding Revenue

$$Q = 600 - 10P$$

$$10P = 600 - Q$$

$$P = 60 - 0.1 Q$$

$$R = PQ$$

$$R = [60 - 0.1Q]Q$$

$$R = 60Q - 0.1Q^2$$

Finding MR

$$R = 60Q - 0.1Q^2$$

$$MR = 60 - 0.2Q$$

Setting $MR = MC$

$$MR = 60 - 0.2Q$$

$$MR = MC = 18$$

Setting $MR = MC$

$$MR = 60 - 0.2Q$$

$$MR = MC = 18$$

$$60 - 0.2Q = 18$$

Solving for Q

$$60 - 0.2Q = 18$$

Solving for Q

$$60 - 0.2Q = 18$$

$$-0.2Q = -42$$

Solving for Q

$$60 - 0.2Q = 18$$

$$-0.2Q = -42$$

$$0.2Q = 42$$

Solving for Q

$$60 - 0.2Q = 18$$

$$-0.2Q = -42$$

$$0.2Q = 42$$

$$Q = 210$$

Solving for Price

$$Q = 210$$
$$P = 60 - 0.1Q$$

Solving for Price

$$Q = 210$$
$$P = 60 - 0.1Q$$
$$P = 60 - 0.1(210)$$

Solving for Price

$$Q = 210$$
$$P = 60 - 0.1Q$$
$$P = 60 - 0.1(210)$$
$$P = 39$$

Solving for the Number of Plants

$$P = 39$$
$$q = 3$$
$$Q = 210$$

Solving for the Number of Plants

$$P = 39$$
$$q = 3$$
$$Q = 210$$

$$N = \frac{\text{Output}}{\text{Output / plant}} = \frac{210}{3} = 70$$

Finding Profits

$$Q = 210$$
$$P = 39$$

Finding Profits

$$Q = 210$$

$$P = 39$$

$$AC = 18$$

$$\pi = PQ - 18Q$$

$$\pi = (39)(210) - 18(210)$$

$$\pi = \$4,410$$

The Monopoly's Supply Curve

- Derive Acme's Supply Curve

The Monopoly's Supply Curve

- Derive Acme's Supply Curve
 - Monopolists do not have a supply curve.

End

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