

# PRACTICE 8 - MICROECONOMICS

Bachelor Degree in Global Governance

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# MONOPOLY

If in a market the demand is satisfied entirely by only one firm, this market is a monopoly, and the firm operating in it is a monopolist. A monopolist has not a supply curve, it simply provides a price to the market, knowing that at that price the consumers will be willing to buy the quantity that maximize his profit:

$$\max_Q \pi^m = TR(Q) - TC(Q) = p(Q)Q - TC(Q) \rightarrow MR(Q) - MC(Q) = 0$$

$$MR(Q) = MC(Q)$$

## MONOPOLY MARK-UP

As we have seen a monopolist can set a price above the perfect competition price, but it always takes in consideration the market demand. In order to have a measure about how much above the marginal cost he can price, we can compute its mark-up as follows:

$$\mu = \frac{p^m - MC(Q^m)}{MC(Q^m)} = \frac{p^m}{MC(Q^m)} - 1$$

## EXERCISE

In a market there is only one firm operating with the following total cost function:

$$TC(Q_i) = 100Q$$

The market demand is given by:

$$Q^d = 400 - 2p$$

Compute:

1. Market equilibrium when the firm is price-setter (it behaves as a monopoly)
2. Monopoly mark-up and profit
3. Market equilibrium when the firm is price-taker (it behaves as in perfect competition)
4. Monopoly net gain

## EXERCISE

In a market there is only one firm operating with the following total cost function:

$$TC(Q_i) = 40Q_i + 10$$

The market demand is given by :

$$Q^d = 200 - p$$

Compute:

1. Market equilibrium when the firm is price-setter (it behaves as a monopoly)
2. Monopoly mark-up and profit
3. Market equilibrium when the firm is price-taker (it behaves as in perfect competition)
4. Monopoly net gain

## EXERCISE

In a market there is only one firm operating with the following total cost function :

$$TC(Q_i) = 40Q_i + 10$$

The market demand is given by :

$$Q^d = 100 - \frac{1}{2}p$$

Compute:

1. Market equilibrium when the firm is price-setter (it behaves as in a monopoly)
2. Monopoly mark-up and profit
3. Market equilibrium when the firm is price-taker (it behaves as in perfect competition)
4. Monopoly net gain