

Econ 302
Tutorial 3

1. A monopolist is operating in a market where the demand is described by $p = 144 - 3y$. The monopolist's cost of production is described by $c(y) = 3y^2$.
 - (a) Derive the monopolist's profit maximizing quantity, the resulting monopoly price, and the monopolist's profits. Show your result in a graph.
 - (b) Assuming that the cost function above describes the cost of an entire competitive industry, find the perfectly competitive quantity and price. What is the dead weight loss that the monopoly causes? Show these results in the graph you prepared for part (a).
 - (c) The government decides to give a per-unit subsidy to the monopolist so he will produce the efficient quantity. Find the amount of per-unit subsidy necessary for this policy to be successful. What is the cost to the government? Do you agree with this policy? Explain.

2. A monopolist is operating in two separate markets where the corresponding demands are described by $p_1 = 45 - 0.5y_1$ and $p_2 = 30 - y_2$. The monopolist's cost of production is described by $c(y) = (1/6)y^2$, where $y = y_1 + y_2$.
 - (a) Derive the monopolist's profit maximizing quantity, the resulting monopoly price, and the monopolist's profits IF he cannot price discriminate.
 - (b) Derive the monopolist's profit maximizing quantities, the resulting monopoly prices, and the monopolist's profits under price discrimination of third degree. Compare the profits you find with those in part (a).
 - (c) Can the monopolist do better than in (a), and/or (b) by just dropping one of the two markets? Explain.