

Econ 101 | Demo E2

Demo E2 is adapted from part of a homework assignment in a previous semester.

Question 1 (of 1) | Golden Snitches

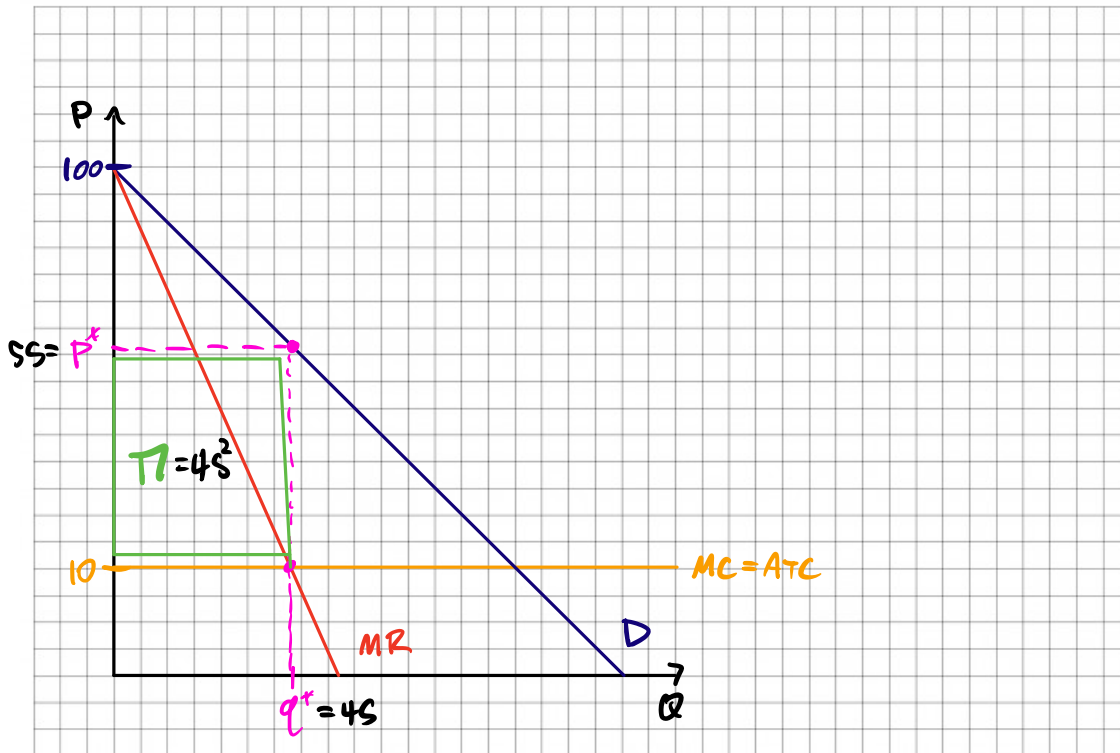
The golden Snitch is another piece of equipment in the game of Quidditch. Since it is incredibly difficult to manufacture the Snitch to the level of uniformity required for the game, everyone in the sporting world buys their golden Snitches from one seller: Ruffelbottom's Quidditch Supply. The demand for golden Snitches is given by:

$$P = 100 - Q$$

where prices are given in terms of galleons. Ruffelbottom's marginal cost of producing each Snitch is a constant 10 galleons, and there are no fixed costs. The marginal revenue per Snitch is:

$$MR = 100 - 2Q$$

Use one graph to answer parts A through C.



Part A. Quantity

What is the profit maximizing number of Snitches Ruffelbottom should sell? Label on the graph above.

$$\begin{aligned} \text{Set } MR &= MC \\ 10 &= 100 - 2Q \end{aligned} \Rightarrow 2Q = 90$$

$$Q = 45$$

$Q^* = 45$

Part B. Price

What price should Ruffelbottom charge per Snitch? Label on the graph above.

Plug Q^* into Demand.

$$P = 100 - 2Q$$

$P^* = 55$

Part C. Profit

What is Ruffelbottom's profit from selling Snitches? Label on the graph above.

Profit:

$$\Pi = (55 - 10) \cdot 45$$

$\Pi = 45^2$

Part D. Lumpsum Tax

The Ministry realized Ruffelbottom was capturing a great deal of welfare from the quidditch world, and decided to impose a lumpsum tax on the seller. Use a graph to show the effect this lumpsum tax had on the market.

