Intro Microeconomics | MiniExam B Demo

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Some Advice

Begin by setting up the graph and qualitative solutions to the three parts. Then only after you've finished describing the parts qualitatively should you proceed to use numbers. I care both about your qualitative and quantitative answers, but I would much rather have all your qualitative work be solid.

Selling out to Big Chocolate

Chocolate bars have long been used in the wizarding world as an antidote to the presence of dementors. And many in the wizarding world enjoy chocolate for both its medicinal and culinary uses. Chocolate is easy to produce, and many small chocolate shops have emerged to make and sell the good. The supply and demand curves for chocolate bars can be represented by the following equations:

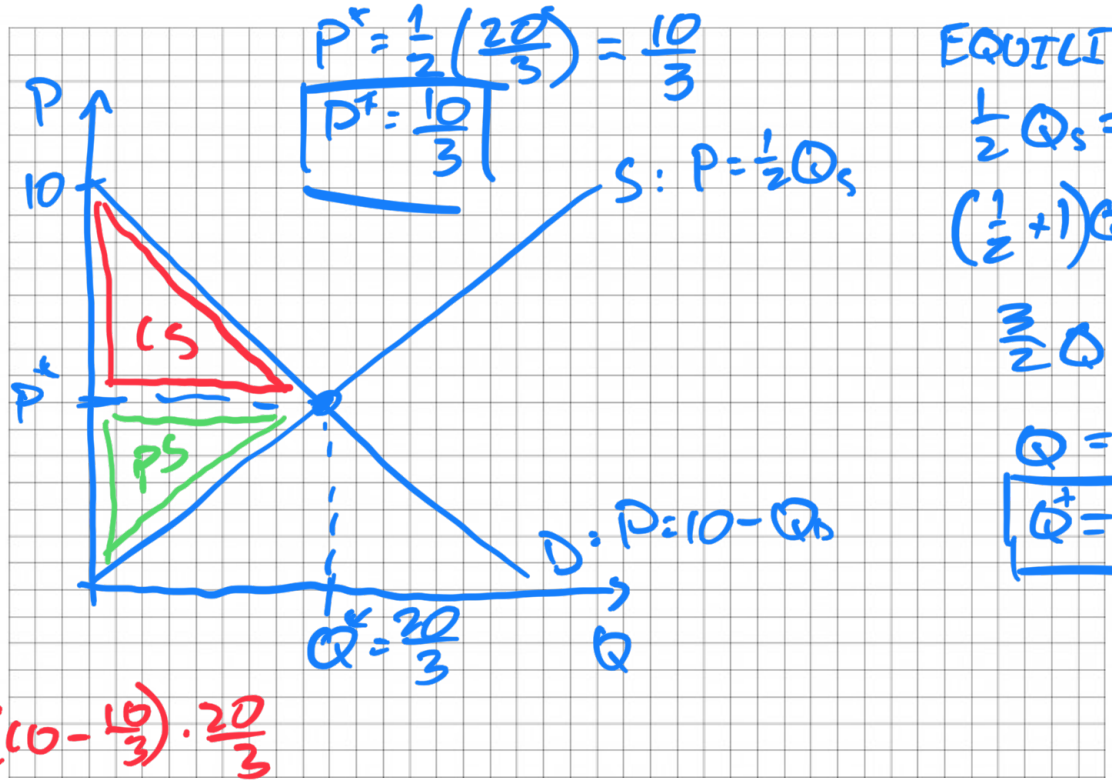
$$P_b = 10 - Q_D$$
$$P_s = \frac{1}{2}Q_S$$

Note

The price is measured in terms of silver Sickles, and quantity is measured as weight in terms of stones.

Question 1 | Equilibrium

Use a graph to describe the market for chocolate and it's associated welfare.



$P^* = \frac{1}{2}\left(\frac{20}{3}\right) = \frac{10}{3}$

$P^* = \frac{10}{3}$

$\frac{10}{3} = P^*$

EQUILIBRIUM

$\frac{1}{2}Q_S = P = 10 - Q_D$

$\left(\frac{1}{2}+1\right)Q = 10$

$\frac{3}{2}Q = 10$

$Q = 10 \cdot \frac{2}{3}$

$Q^* = \frac{20}{3}$

$CS = \frac{1}{2} \cdot \left(10 - \frac{10}{3}\right) \cdot \frac{20}{3}$

$= \frac{1}{2} \cdot \frac{20}{3} \cdot \frac{20}{3}$

$CS = \frac{200}{9}$

$PS = \frac{1}{2} \cdot \frac{10}{3} \cdot \frac{20}{3}$

$= \frac{10}{3} \cdot \frac{10}{3}$

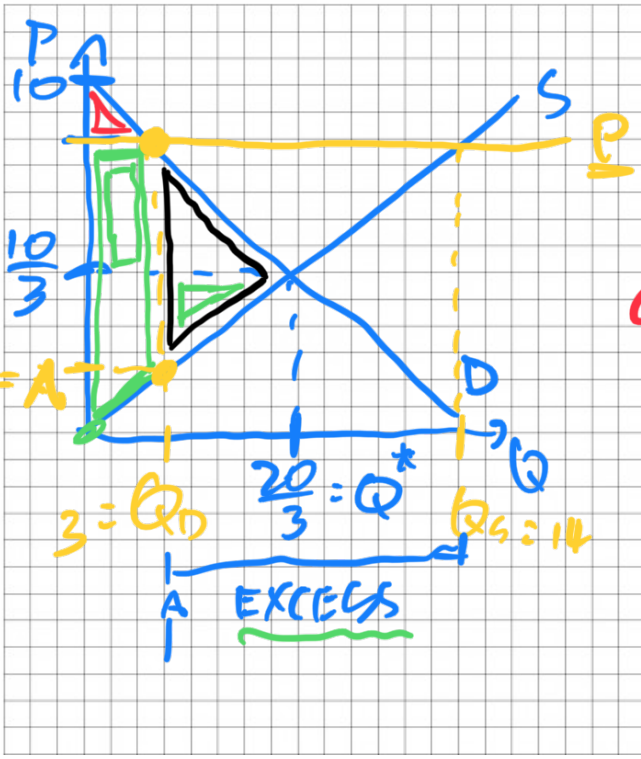
$PS = \frac{100}{3}$

$TS = CS + PS$

$= \ldots$

Question 2 | Supporting Shops

Despite the vibrant market for chocolate, a price floor of 7 silver Sickles was imposed on this market to ensure sellers would survive for generations. Use a graph to describe the market for chocolate and the welfare effects of the price floor.



$7 > \frac{10}{3} \approx 3.3\overline{3}$

$Q_{ex} = Q_D$

$P = P$

$CS = (10-7)\cdot 3 \cdot \frac{1}{2} = \frac{9}{2} = CS$

$PS = \square + \triangledown = \frac{33}{2} + \frac{9}{4} = \frac{75}{4} = PS$

$\square = (7 - \frac{3}{2}) \cdot 3 = (\frac{14-3}{2}) \cdot 3$

$= \frac{11 \cdot 3}{2} = \frac{33}{2}$

$\triangledown = \frac{3}{2} \cdot 3 \cdot \frac{1}{2} = \frac{9}{4}$

Q_D

$P = 10 - Q_D$

$7 = 10 - Q_D$

$Q_D = 3$

Q_S

$P = \frac{1}{2} Q_S$

$7 = \frac{1}{2} Q_S$

$Q_S = 14$

A

$P = \frac{1}{2} \cdot 3$

$P = \frac{3}{2}$

$A = \frac{3}{2}$

$ATS = PWL = (7 - \frac{3}{2}) \cdot (\frac{20}{3} - 3) \cdot \frac{1}{2}$

$= (\frac{14-3}{2}) \cdot (\frac{20-9}{3}) \cdot \frac{1}{2}$

$= 11 \cdot \frac{11}{3} = \frac{121}{3} = DWL$

CS has gone down.

PS has gone down from $\frac{100}{3}$ to $\frac{75}{4}$!