

Answer on Question #54577-Economics-Microeconomics

Suppose the given is $S=100+50P$ and $D=4000-P$, how do you get the Producer surplus and the Consumer surplus?

Solution

For the equilibrium

$$100 + 50P = 4000 - P.$$

$$P_{eq} = \frac{3900}{51} = 76.5.$$

$$Q_{eq} = 4000 - 76.5 = 3923.5.$$

$$Q_S = 100 + 50P = 0 \rightarrow P = -2.$$

$$Q_D = 4000 - P = 0 \rightarrow P = 4000$$

The Producer surplus is

$$PS = \frac{1}{2}(76.5 - (-2))3923.5 = 153997.375.$$

The Consumer surplus is

$$QS = \frac{1}{2}(4000 - 76.5)3923.5 = 7696926.125.$$

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