In-class exercise-Tax Incidence

Question

Suppose the market for grass seed can be expressed as

Demand: \( Q_d = 100 - 2p \)

Supply: \( Q_s = 3p \)

If gov’t imposes a 5 specific tax to be collected from sellers, what is the price consumers will pay? How much tax revenue is collected? What fraction is paid by sellers?

Solution:

Original equilibrium: \( p^* = 20 \), \( Q^* = 60 \).

New equilibrium: \( Q^2_s = 3(p - 5) = 100 - 2p = Q_d \), we get \( p^* = 23 \), \( Q^* = 54 \).

So, consumers pay 23.

Tax revenue is \( 5 \times 54 = 270 \).

Sellers receive 2 less. So the fraction that sellers pay is \( \frac{2}{5} \).