

# In-Class Assignment

Topic: Supply, demand and equilibrium

Date: January 21<sup>st</sup>, 2015

## Learning Objectives

- > Working with demand and supply equations
- > Understanding equilibrium analysis

## Question

Solve for the equilibrium price and quantity for pork using the market information below. Round to two decimal places.

The demand function for processed pork in Canada,

$$Q_D = 552 - 23p + 20p_b$$

and the supply function for processed pork in Canada is

$$Q_S = 386.51p - 60p_h$$

Let

$p$  = price of pork  
 $p_b$  = price of beef = \$4 per kg  
 $p_h$  = price of a hog (input cost) = \$1.50 per kg

$$Q_D = 552 - 23p + 20(4) = 632 - 23p$$

$$Q_S = 386.51p - 60(1.50) = \cancel{386.51p} - 90$$

$$Q_D = Q_S$$

$$\begin{array}{r} 632 - 23p = 386.51p - 90 \\ +90 \quad +23p \quad \quad +23p \quad +90 \end{array}$$

$$\frac{722}{409.51} = \frac{409.51p}{409.51}$$

$$p = 1.76$$

$$Q_D = Q_S \approx 591.00$$

or  
590.

