## Section 7.5 Worksheet

1. The supply function for oil is given (in dollars) by S(q), and the demand function is given (in dollars) by D(q), where

 $S(q) = q^2 + 13q;$   $D(q) = 1054 - 15q - q^2.$ 

(a) Graph the supply and demand curves on the same axes.

(b) Find the point at which supply and demand are in equilibrium.

(c) Use the fundamental theorem of calculus to find the consumer and producer surplus.

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- 2. Find the producer surplus if the supply function for pork bellies is given by

$$S(q) = q^{5/2} + 2q^{3/2} + 54.$$

Assume the supply and demand are in equilibrium at q = 16.