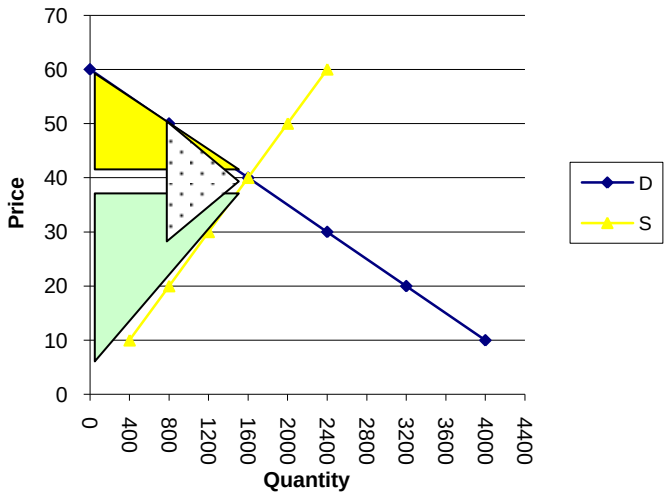
Economics 101 The Economic Way of Thinking Project 3 - Gains from Trade	**Answers**

Suppose the demand and supply of MSU sweatshirts is given by:

Quantity Supplied per year	Price	Quantity Demanded per year
0	0	4800
400	10	4000
800	20	3200
1200	30	2400
1600	40	1600
2000	50	800
2400	60	0

a. Graph these curves in Figure 1. Label the axes.

Figure 1



b. At what price does equilibrium occur? **40** What quantity is traded at that price? **1600** .

c. At equilibrium, what is the dollar amount of consumer surplus? **$16,000 .** Label this area in the graph above.

*The yellow triangle represents consumer surplus (CS) – the difference between the consumer's willingness to pay/marginal benefit and the price they pay for the sweatshirts. Computationally, CS is .5*1600*20 = $16,000.*

d. At equilibrium, what is the dollar amount of producer surplus? **$32,000 .** Label this area in the graph above.

*The green triangle represents producer surplus (PS) – the difference between the producers' marginal cost and the price they receive for the good. Computationally, PS is .5*1600*40 = $32,000.*

e. At equilibrium, what is the dollar amount of the gains from trade? **$48,000 .**

The total gains from trade between produces and consumers of sweatshirts is CS + PS $32,000 + $16,000 = $48,000.

f. Suppose that because of a government anti-sweatshirt regulation, the maximum quantity of this good that could be produced was 800. What is the new price that will prevail for the good? **$50**

At Q = 800, there are sufficient consumers willing to pay $50 for each sweatshirt, and that will be the new price of the good.

g. What is the dollar amount of consumer surplus at the new price? **$4,000**

*At that price, CS is the smaller triangle between P = 50 and P = 60 and Q = 0 and Q = 800. Computationally, CS = .5*800*10 = $4,000.*

h. What is the dollar amount of producer surplus at the new price? **$32,000**

*PS is now the area below P = 50 and above the supply curve between Q = 0 and Q = 800. Computationally, this is a rectangle plus a triangle: PS = (30*800) + (.5*800*20) = 24,000 + 8,000 = $32,000.*

i. What is the dollar amount of the gains from trade at the new price? **$36,000**

In total, the gains from trade are now $4,000 + $32,000 = $36,000.

j. Why is there a difference between the gains from trade in part e and part i?

The quota generates a deadweight loss to society. The area between Q = 800 and Q = 1600 and between P = 50 and P = 20 (which I've done a poor job of getting the computer to cover with a dotted triangle) represents the deadweight loss to society from the regulation, worth $48,000 - $36,000, or $8,000.