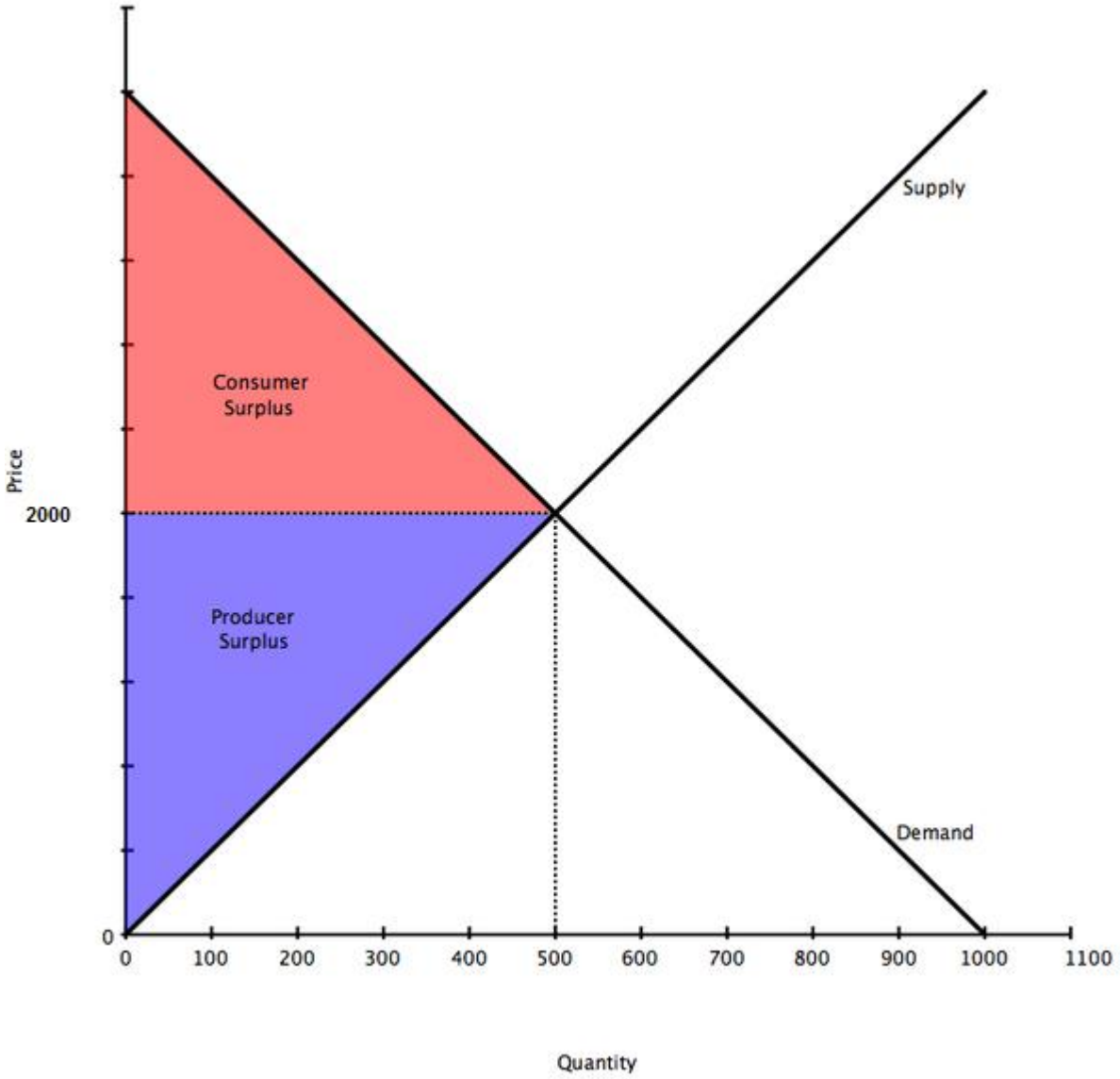
1. The market supply and demand for one type of GPS are given by the following equations.
P Qd = 900 − 0.2 P Qs = 300 + 0.1P

a. What is equilibrium quantity?
Qs = Qd
900 - 0.2P = 300 + 0.1P
0.3P = 600
P = 2000
Q = 900 - 0.2*2000 = 500

b. What is equilibrium price?
P = 2000

c. Graph supply demand. Label equilibrium and show CS and PS



d. Calculate Consumer and Producer Surplus
CS = 0.5*2,500*500 = 625,000
PS = 0.5*2000*500 = 500,000
2. Define efficiency.

Efficiency is in the point of equilibrium P = 2000, Q = 500, because there is no deadweight loss.
3. What happens to Consumer surplus as price goes up?
CS will decrease.
4. What happens to Producer Surplus as price goes up?
PS will increase.