1. What is the definition of consumer surplus?
   A. The profit a consumer makes in a given transaction.
   B. The difference between the most the consumer would pay and they price they actually paid.
   C. The price of the good times the quantity bought.

2. What is the definition of producer surplus?
   A. The difference between the least they would sell their product for and the price they actually sell it for.
   B. The price of the good times the quantity sold.
   C. The amount of produced goods which remain unsold.

3. Suppose ice cream cones cost $2. Jesse bought two cones and was willing to buy the first one for $3 and the second for $2.50, while Jane bought one cone and was willing to pay $2.75. What is the total consumer surplus?
   A. $1  B. $1.75  C. $2.25  D. $2

4. On the left side of the demand curve, consumers’ willingness to pay is...
   A. highest  B. lowest  C. indeterminate

5. Suppose the supply and demand curves for basketballs are as follows:
   \[ Q^D = 105 - 5P \]
   \[ Q^S = 5 + 15P \]
   The equilibrium price and quantity are \( P^* = $5 \) and \( Q^* = 70 \) basketballs and the supply choke price is $0.33, \((\frac{1}{3})\).
   Compute the producer surplus.  A. 157.67  B. 169.33  C. 163.33  D. 172.4

6. Refer to the previous question. The demand choke price is $21. Compute the consumer surplus.
   A. $520  B. $560  C. $580  D. $610

7. Suppose the equilibrium price for gas is $4 per gallon, and the federal government forces gasoline retailers to charge no more than $3 per gallon. Consumer surplus + producer surplus will...
   A. increase  B. decrease  C. stay the same  D. indeterminate

8. Refer to the previous question. Some other consequences of the price ceiling on gas will be (circle all that apply):
   A. A surplus of unsold gas  B. A shortage of gas  C. long lines at gas stations  D. an increase in exploration for oil fields

9. Suppose the federal government decides to open up it’s strategic oil reserve and sell 10 million barrels of oil at the market price. This will increase the number of barrels of oil available in the market by...
   A. 10 million barrels  B. less than 10 million barrels  C. greater than 10 million barrels  D. indeterminate

10. Suppose the federal government implements a $0.1 tax on bottled soda. Consumer surplus + producer surplus will decrease, but the government now collects revenue equal to the tax times the number of bottles of soda sold. Is old (pre tax) consumer + producer surplus greater than or less than the new (after tax) consumer + producer surplus + the tax?
    A. greater than  B. less than  C. equal  D. indeterminate
5) \[ Q^D = 105 - 5P \quad p^* = 5 \]
\[ Q^s = 5 + 15P \quad Q^s = 70 \]
Supply choke point = \( \frac{1}{3} \)

\[
PS = \frac{1}{2} \cdot 70 \cdot (5 - \frac{1}{3})
\]
\[
= 35 \cdot \frac{14}{3} \approx 163.33
\]

6) Demand choke point = 21

\[
CS = \frac{1}{5} \cdot 70 \cdot (21 - 5)
\]
\[
= 35 \cdot 16 = 560
\]