

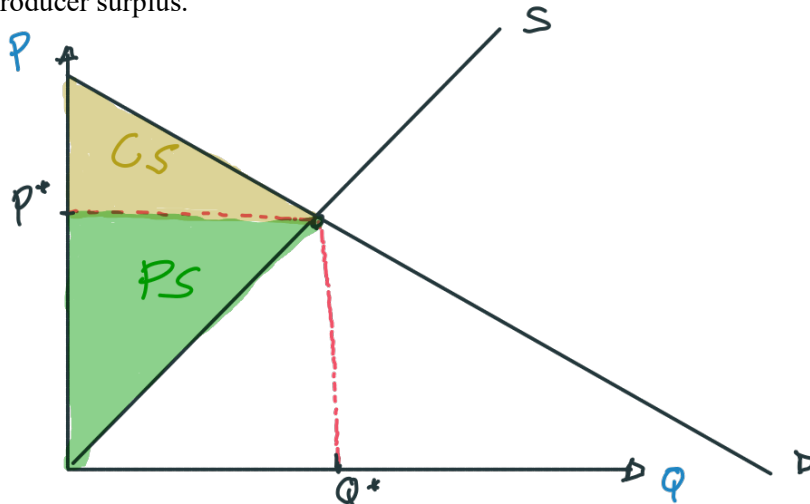
# ECON 101

## TA Worksheet, Module 7 (CS and PS)

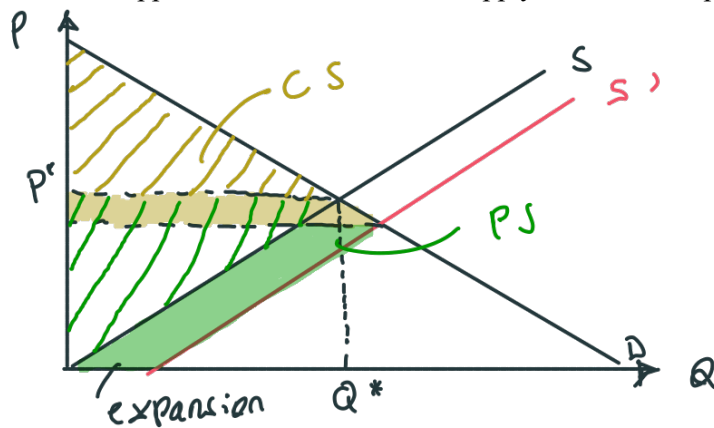
Name: \_\_\_\_\_

Date: \_\_\_\_\_

1. Draw a market in equilibrium. Label the equilibrium price and quantity. Identify consumer and producer surplus.



2. What happens to CS, PS and TS as supply shifts out? Explain and draw it.



CS ↑  
as buy more at lower p.  
PS ↑ as make more  
profits per q. sold.

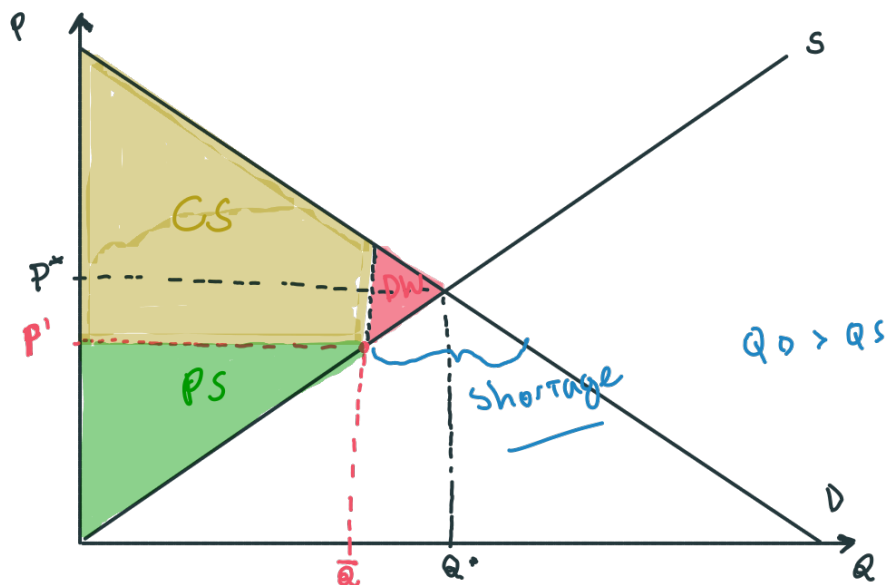
3. Suppose cheese curds cost 50 cents each. Given the data below, how many would you buy and what would your total consumer surplus be?

Number	Marginal Benefit/Willingness to pay
1	\$1.00 > .50 ✓
2	\$0.80 > .50 ✓
3	\$0.60 > .50 ✓
4	\$0.40 < .50 ✗
5	\$0.20 < .50 ✗

Buy 3! CS is:

$$\begin{aligned}
 CS &= (1.00 - 0.50) + (0.80 - 0.50) + (0.60 - 0.50) \\
 &= 0.50 + 0.30 + 0.10 = \underline{\underline{0.90}}
 \end{aligned}$$

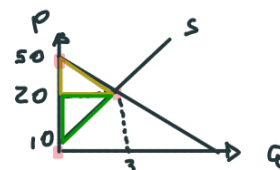
4. Draw a market. Suppose quantity is below equilibrium quantity and price is where that quantity hits the Supply curve (you just made a price ceiling). Show consumer surplus, producer surplus, and deadweight loss. Label everything.



5. Consider the system:

Market Demand:  $P = 50 - 10Q$

Market Supply:  $P = 10 + (10/3)Q$



Calculate consumer, producer, and total surplus when the market is in equilibrium.

$$50 - 10Q = 10 + \frac{10}{3}Q \Leftrightarrow 40 = 10Q + \frac{10Q}{3} \Leftrightarrow 120 = 40Q \Leftrightarrow Q^* = 3$$

And  $P = 50 - 10(3) = 20$ . So  $(P^*, Q^*) = (20, 3)$

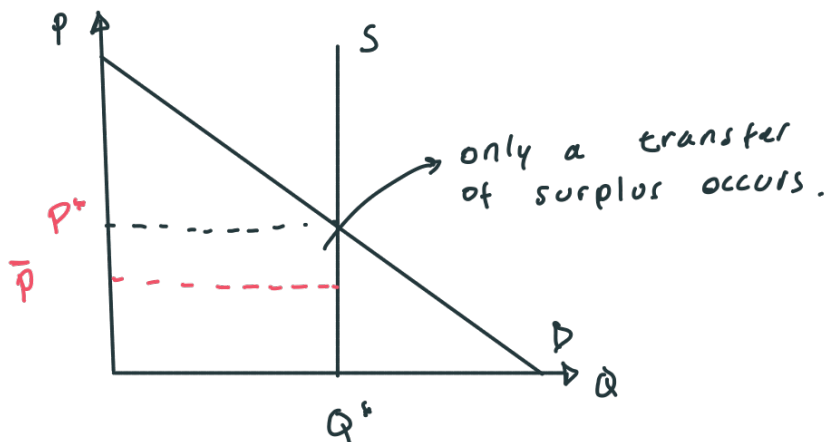
$$TS: \frac{(50-10) \cdot 3}{2} = \underline{60}$$

$$CS: \frac{(50-20) \cdot 3}{2} = 45$$

$$PS: \frac{(20-10) \cdot 3}{2} = 15$$

$$TS = 60 = 45 + 15$$

6. Under what circumstance(s) would a binding price ceiling create no deadweight loss? Draw it.



**OPTIONAL (Preview of Module 8 – next week)**

Two friends, Alex and Jamie, have one hour to cook and can spend it doing one of two activities: making pizzas, or baking cookies. In that one hour:

- Alex can make 4 pizzas or bake 20 cookies.
- Jamie can make 2 pizzas or bake 12 cookies.

Questions

1. Who has an absolute advantage in each activity?

Alex has in both.

2. What is Alex's opportunity cost of making one pizza?

$$\frac{20}{4} = \underline{5 \text{ cookies}}$$

3. What is Jamie's opportunity cost of making one pizza?

$$\frac{12}{2} = 6 \text{ cookies}$$

4. Who has the comparative advantage in making pizzas? And cookies?

Alex has comp. adv. in pizza

Jamie in cookies