Solutions

1. I leave the kids home alone for an hour with 2 jobs: raking the leaves and baking cookies. Oz is 15 and is better at both things (Levi is only 10). In that hour Oz could bake 36 cookies. Levi could bake 12. In that hour Oz could rake the entire yard. Levi could only rake half of it. Who has comparative advantage in raking? Who has comparative advantage in baking?

   Follow-up (or hint): what is Oz's opportunity cost of raking the entire yard? What is Levi's?

OC = Give / Get

(OUTPUT)

| | Oz | Levi |
|---|---|---|
| Leaves | 1 | 0.5 |
| Cookies | 36 | 12 |

Comp. Adv. in Baking?

Oz: 36 cookies

Levi: 24 cookies $\left(\frac{12}{0.5}\right)$

Levi has ↑

Baking: $\frac{1}{36}$ vs $\frac{1}{24}$

Oz

OC = Time doing / Time not doing

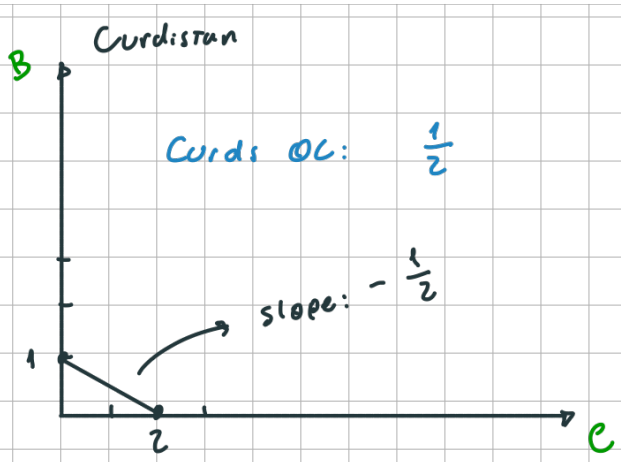
(INPUT)

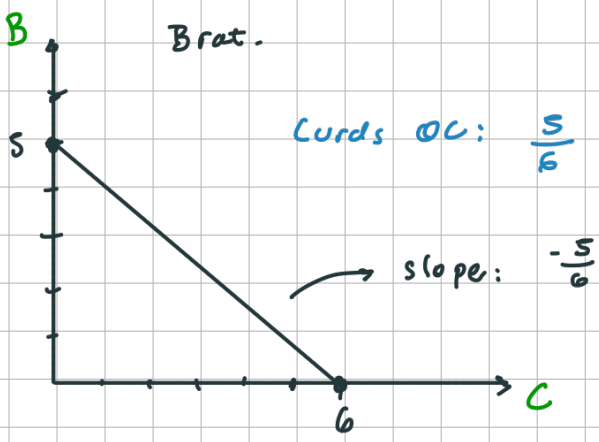
| | Oz | Levi |
|---|---|---|
| Leaves | 60 min | 120 min |
| Cookies | 1.667 min | 5 min |

Leaves: Oz OC = $\frac{60}{1.667} = 36$

Levi OC = $\frac{120}{5} = 24$

2. The country of Curdistan can make 2 million cheese curds OR 1 million brats in a year. The country of Bratsylvania can make 6 million cheese curds OR 5 million brats in a year. Draw the PPFs for the two countries. Who has comparative advantage in making Curds? What is the opportunity cost of making curds in each country?



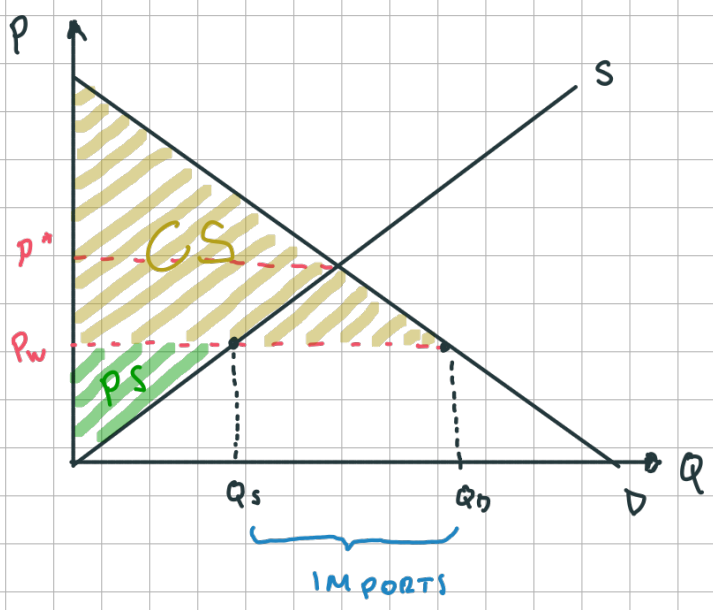



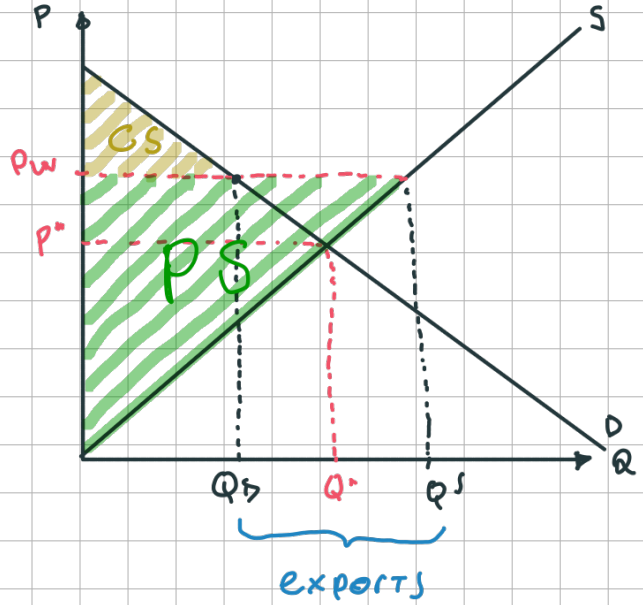

Comp Adv in Curds: Curdistan.

Note: On a PPF, slope is the PPF of x-axis

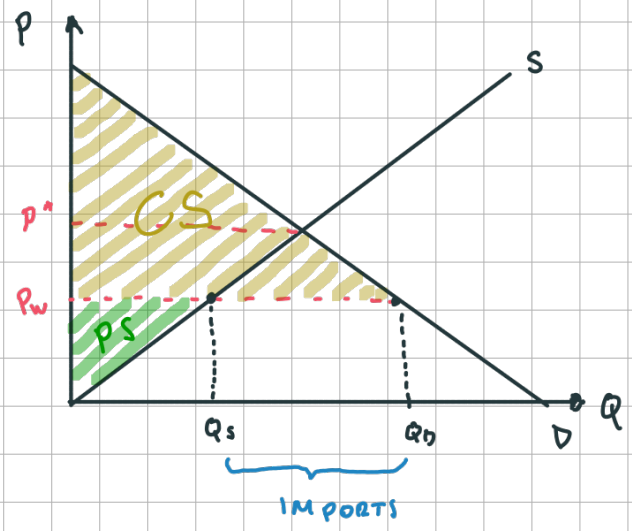
↳ Rise / Run

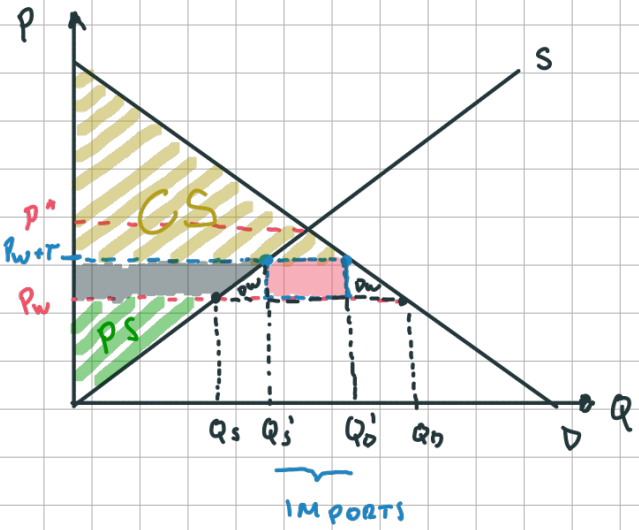
3. Draw the S+D picture for a country that imports a product. Label imports, consumer surplus, and producer surplus. Do the same for a country that exports a product.




4. Draw a country that imports a product. Add a tariff. Label: Imports with the tariff in place, Consumer surplus with the tariff, producer surplus with the tariff, government revenue, and deadweight loss due to the tariff.



5. Consider the market below.

Market Demand: $P = 50 - Q$

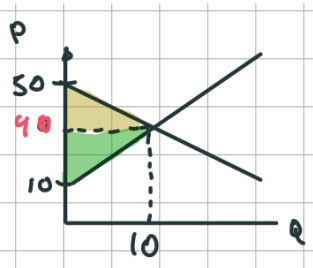
Market Supply: $P = 10 + 3Q$

a. Find the "no trade" equilibrium P and Q.

$50 - Q = 10 + 3Q \iff 40 = 4Q \iff Q^* = 10$

So $P = 40$, $(P^*, Q^*) = (40, 10)$

b. Find consumer surplus, producer surplus, and total surplus.

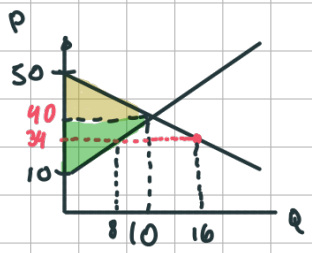



$CS = \frac{(10) \cdot 10}{2} = 50$

$PS = \frac{30 \cdot 10}{2} = 150$

$TS = 200$

c. Now Suppose the market opens up to international trade and the price of the good falls to the world price of \$34. How much of the good is imported? How much is produced domestically?




Produced domestically:

$34 = 10 + 3Q$

$Q = 8$

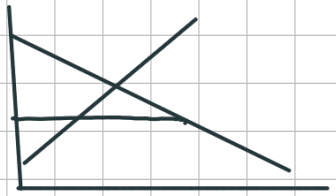
Bought: $34 = 50 - Q \iff Q = 16$

Imported: $16 - 8 = 8$.

d. What happens to CS, PS, and total surplus (exact numbers)?

CS is now $\frac{(50-34) \cdot 16}{2} = 128$

TS is: $\frac{(34-10)}{2} 8 = 96$



TS is $128 + 96 = 224$