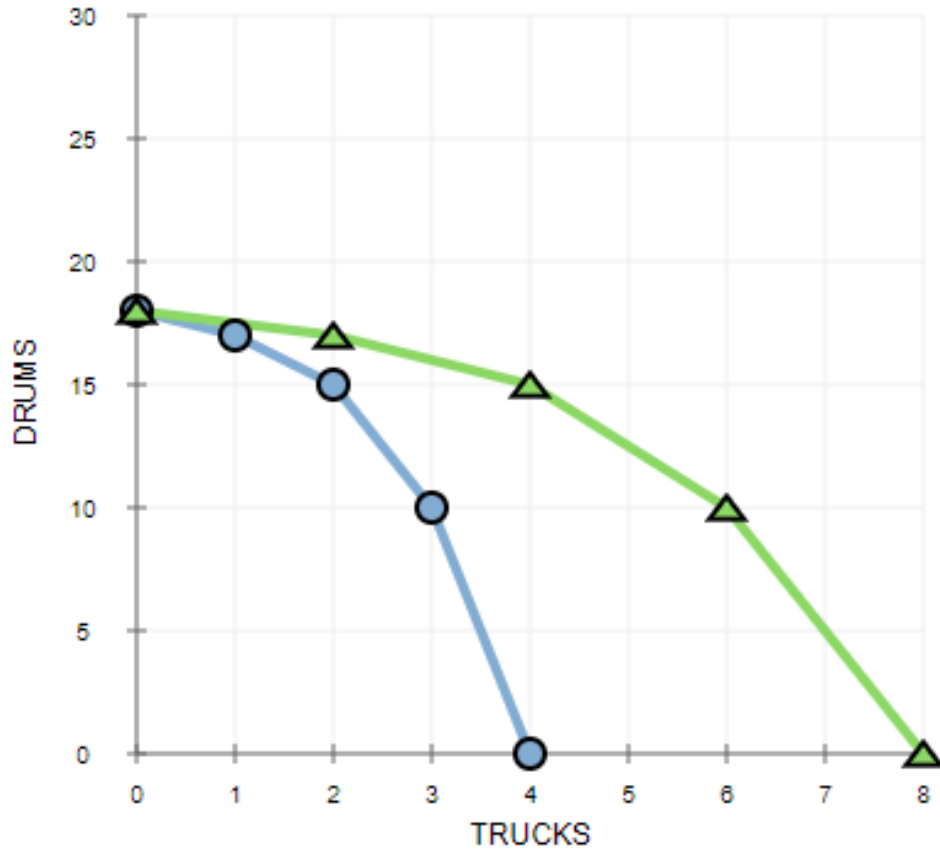
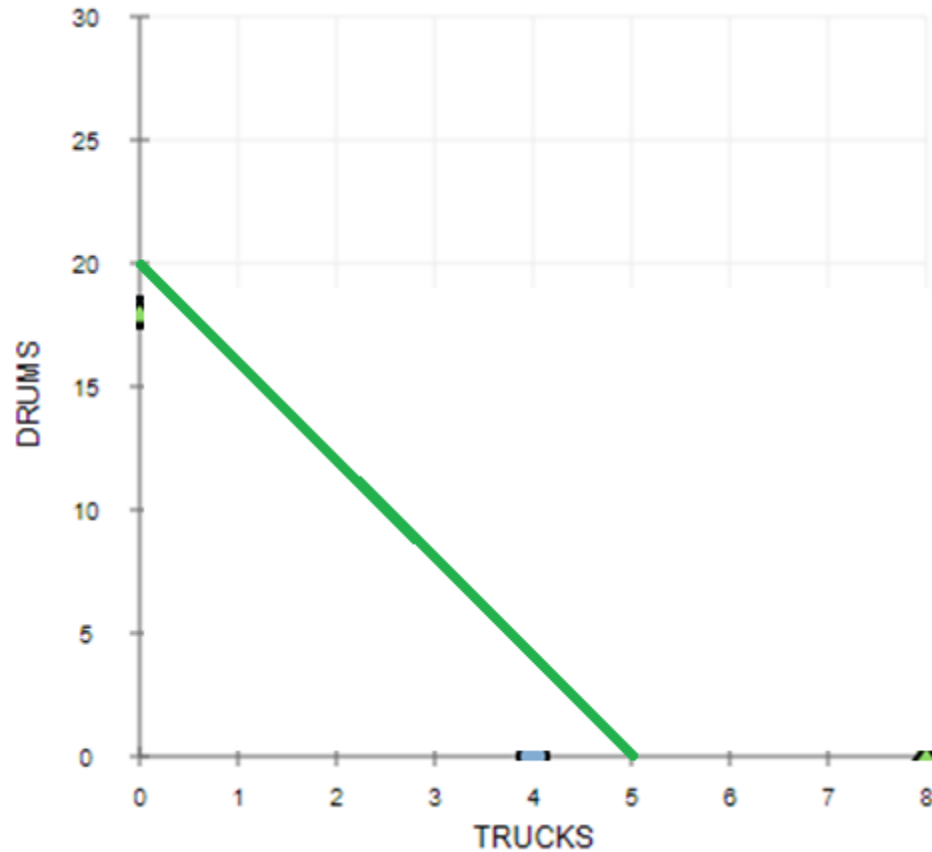


# PPF and the opportunity cost

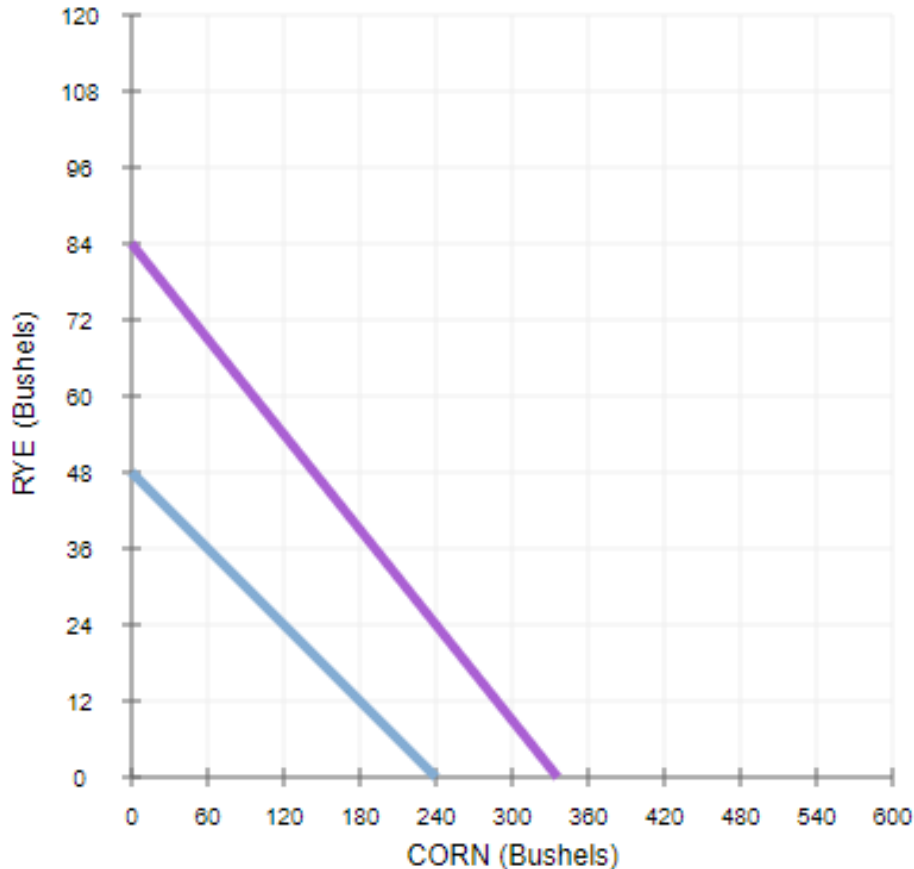


Choice	Hours Producing		Produced	
	(Trucks)	(Drums)	(Trucks)	(Drums)
A	8	0	4	0
B	6	2	3	10
C	4	4	2	15
D	2	6	1	17
E	0	8	0	18

# PPF and the opportunity cost



# Example: opportunity cost



	Corn (Bushels per acre)	Rye (Bushels per acre)
Kevin	20	4
Maria	28	7

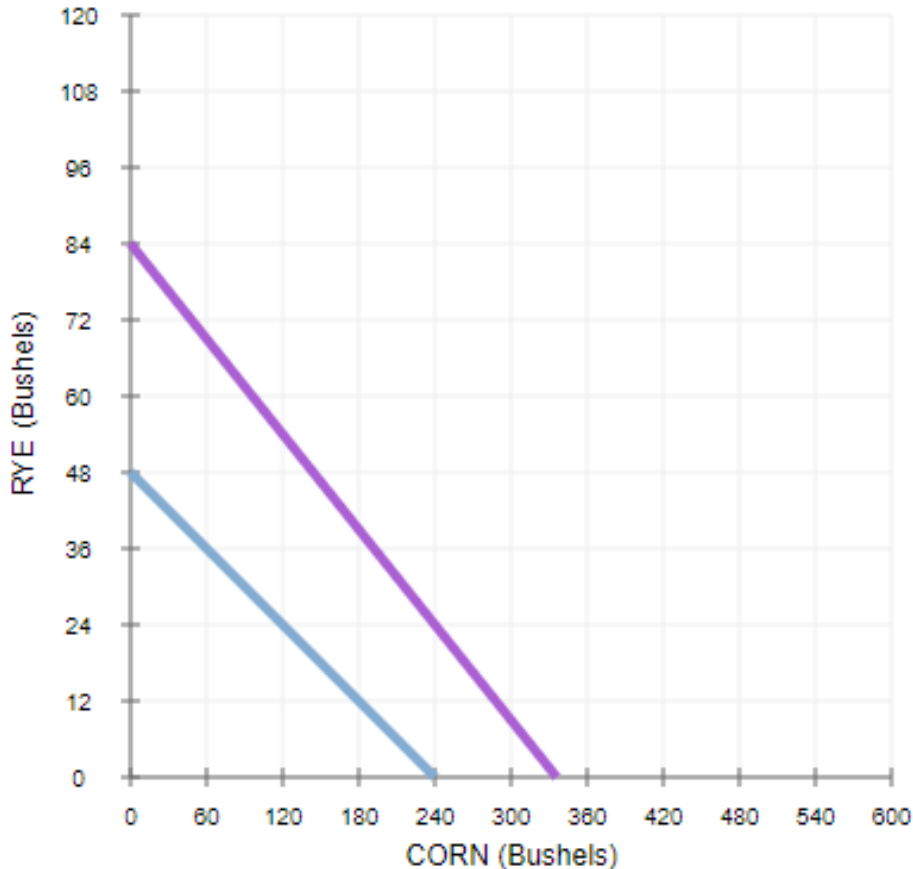
Each one owns a 12-acre plot of land.

**Kevin's opportunity cost.**

Corn:

Rye:

# Example: opportunity cost



	Corn (Bushels per acre)	Rye (Bushels per acre)
Kevin	20	4
Maria	28	7

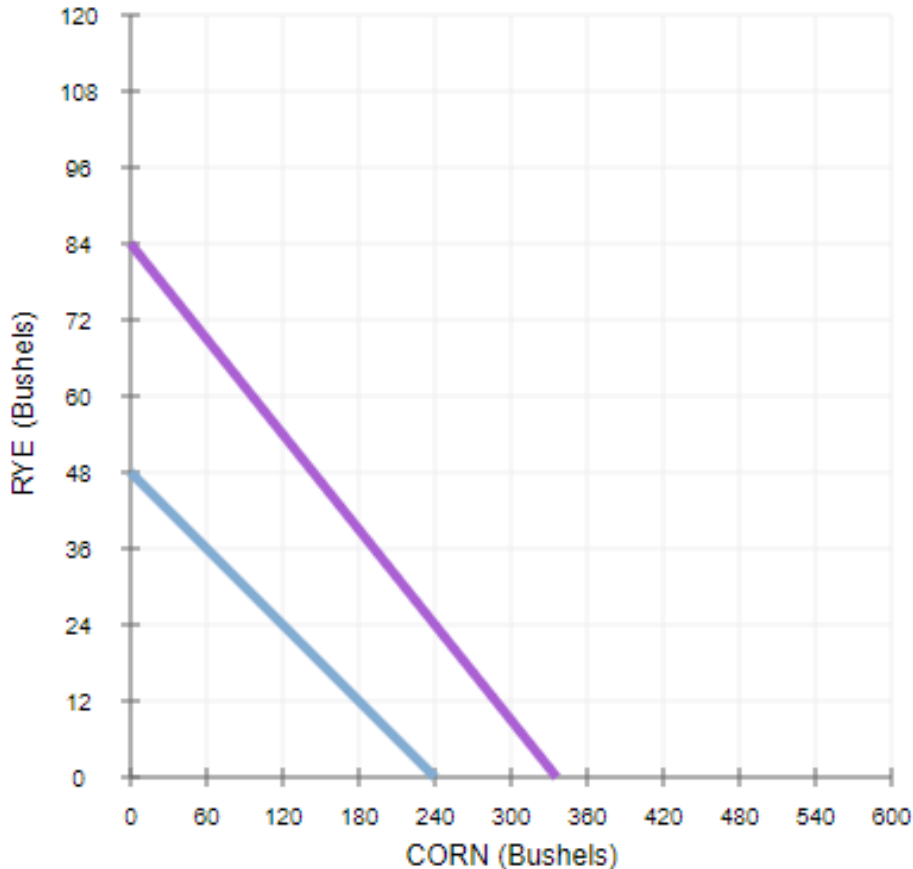
Each one owns a 12-acre plot of land.

**Maria's opportunity cost.**

Corn:

Rye:

# Example: comparative advantage



	Corn (Bushels per acre)	Rye (Bushels per acre)
Kevin	20	4
Maria	28	7

**Kevin's opportunity cost.**

Corn:  $4/20=1/5$

Rye:  $20/4=5$

**Maria's opportunity cost.**

Corn:  $7/28=1/4$

Rye:  $28/7=4$

# Thursday class

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**Benefits of trade...**

# Example: benefits of trade

Country	Corn <i>(Bushels per hour of labor)</i>	Jeans <i>(Pairs per hour of labor)</i>
Euphoria	4	16
Contente	6	12

They each have 4 million labor hours available per week that they can use to produce corn, jeans, or a combination of both.

## Contente

Corn: 1M hrs labor  $\Rightarrow$  6M corn  
Jeans: 3M hrs labor  $\Rightarrow$  36M jeans

## Euphoria

Corn: 3M hrs labor  $\Rightarrow$  12M corn  
Jeans: 1M hrs labor  $\Rightarrow$  16M jeans

# Example: benefits of trade

	Corn	Jeans
Country	<i>(Bushels per hour of labor)</i>	<i>(Pairs per hour of labor)</i>
Euphoria	4	16
Contente	6	12

## Contente's opportunity cost

Corn:  $12/6 = 2$

Jeans:  $6/12 = 1/2$

## Euphoria's opportunity cost

Corn:  $16/4 = 4$

Jeans:  $4/16 = 1/4$



# Example: benefits of trade

	Corn	Jeans
Country	<i>(Bushels per hour of labor)</i>	<i>(Pairs per hour of labor)</i>
Euphoria	4	16
Contente	6	12

## Contente's opportunity cost

Corn:  $12/6 = 2$   
Jeans:  $6/12 = 1/2$



Comparative advantage in the production of corn

## Euphoria's opportunity cost

Corn:  $16/4 = 4$   
Jeans:  $4/16 = 1/4$



Comparative advantage in the production of jeans

# Example: benefits of trade

	Corn	Jeans
Country	<i>(Bushels per hour of labor)</i>	<i>(Pairs per hour of labor)</i>
Euphoria	4	16
Contente	6	12

Suppose that each country completely specializes in the production of the good in which it has a comparative advantage, producing **only** that good.

## Contente's production under specialization:

Corn:  $6 \times 4 = 24$

Jeans:  $12 \times 0 = 0$

## Euphoria's production under specialization:

Corn:  $4 \times 0 = 0$

Jeans:  $16 \times 4 = 64$

# Example: benefits of trade

Suppose the country that produces corn trades **14 million bushels of corn** to the other country in exchange for **42 million pairs of jeans**.

	Euphoria		Contente	
	Corn <i>(Millions of bushels)</i>	Jeans <i>(Millions of pairs)</i>	Corn <i>(Millions of bushels)</i>	Jeans <i>(Millions of pairs)</i>
<b>Without Trade</b>				
Production	12	16	6	36
Consumption	12	16	6	36
<b>With Trade</b>				
Production	<input type="text" value="0"/>	<input type="text" value="64"/>	<input type="text" value="24"/>	<input type="text" value="0"/>
Trade action	<u>Imports 14</u> ▼	<u>Exports 42</u> ▼	<u>Exports 14</u> ▼	<u>Imports 42</u> ▼
Consumption	<input type="text" value="14"/>	<input type="text" value="22"/>	<input type="text" value="10"/>	<input type="text" value="42"/>
<b>Gains from Trade</b>				
Increase in Consumption	<input type="text" value="2"/>	<input type="text" value="6"/>	<input type="text" value="4"/>	<input type="text" value="6"/>

Countries **did not** specialize

Countries **did** specialize

**Gains**

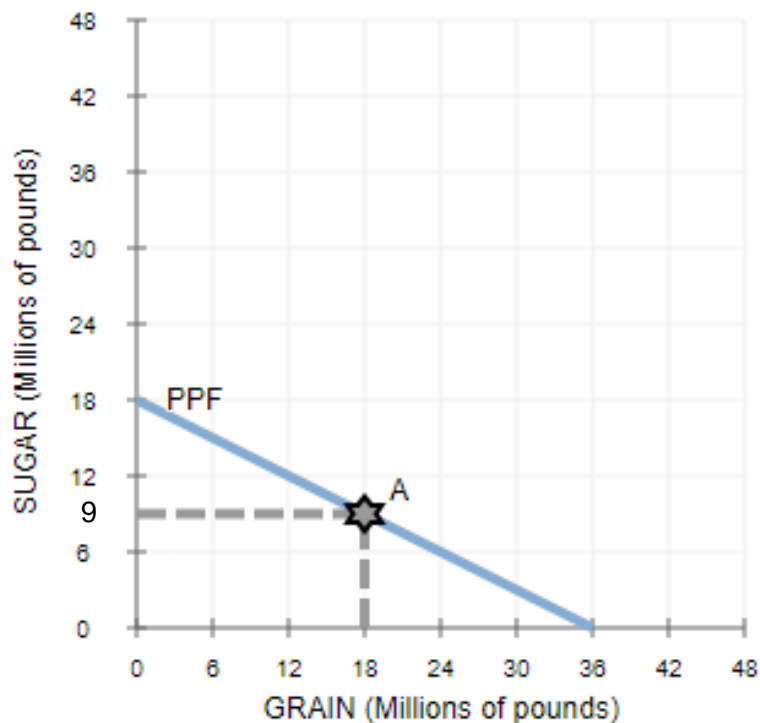
**Corn: 18 million bushels**  
**Jeans: 52 million pairs**

**Corn: 24 million bushels**  
**Jeans: 64 million pairs**

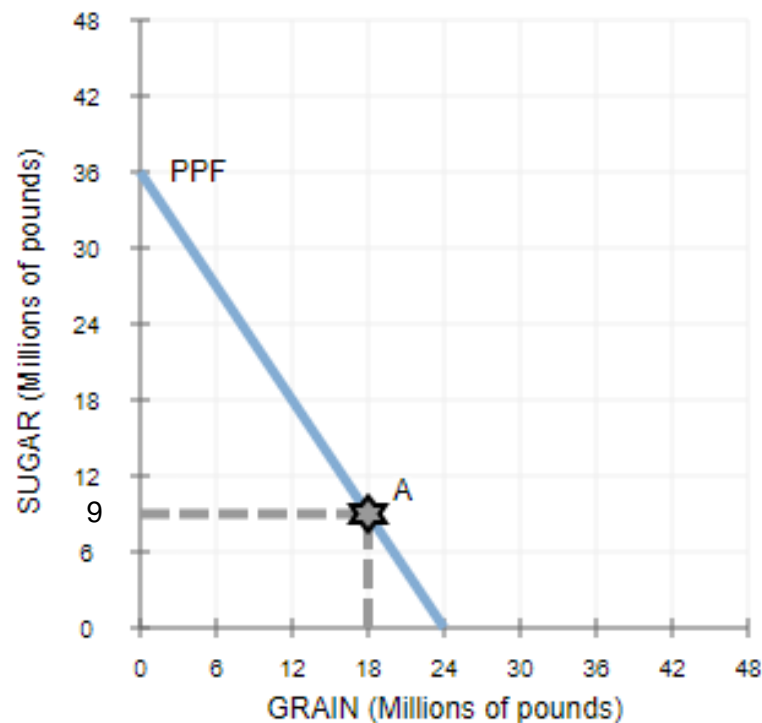
**Corn: 6 M**  
**Jeans: 12 M**

# Example: Specialization and trade

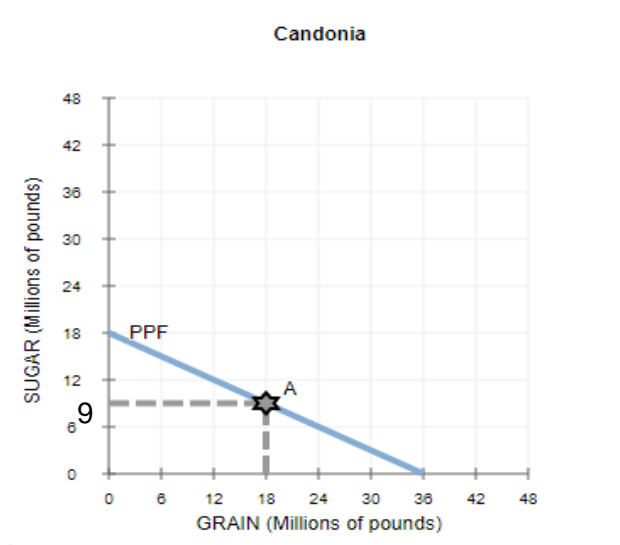
Candonia



Desonia



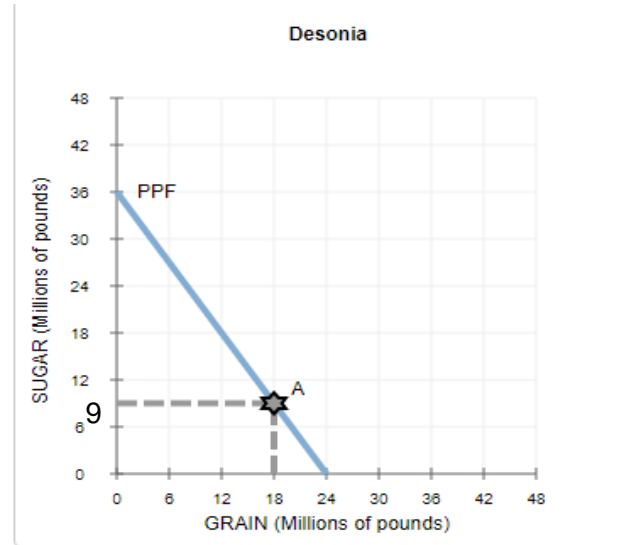
# Example: Specialization and trade



Candonia's opportunity cost

Sugar:  $36/18 = 2$

Grain:  $18/36 = 1/2$



Candonia's production under specialization:

Sugar : 0

Grain : 36

Desonia's opportunity cost

Sugar:  $24/36 = 2/3$

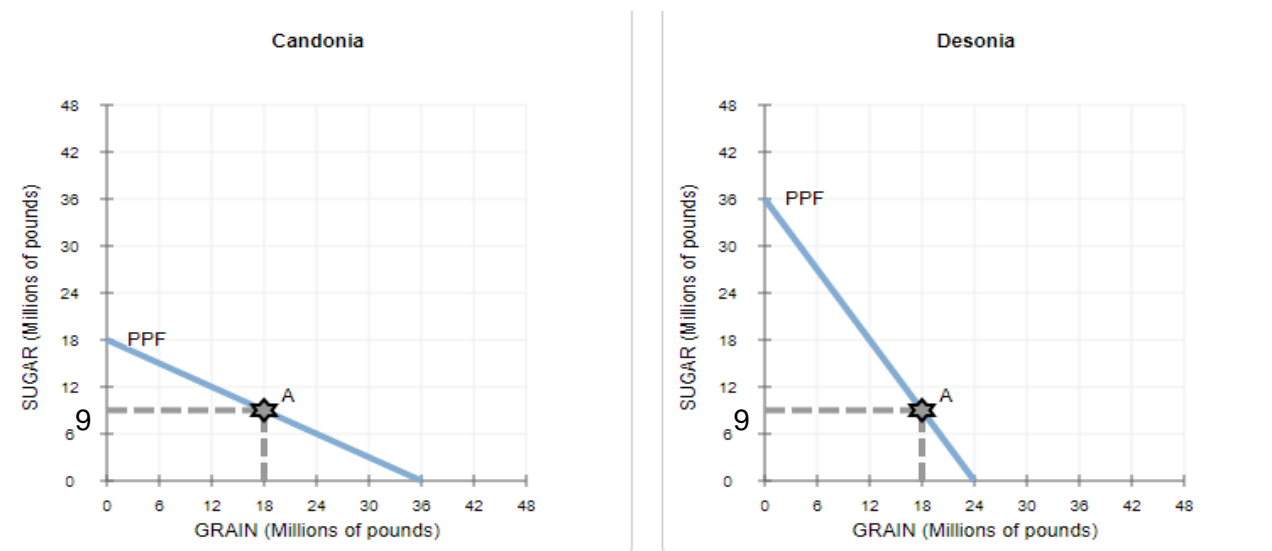
Grain:  $36/24 = 3/2$

Desonia's production under specialization:

Sugar : 36

Grain : 0

# Example: Specialization and trade



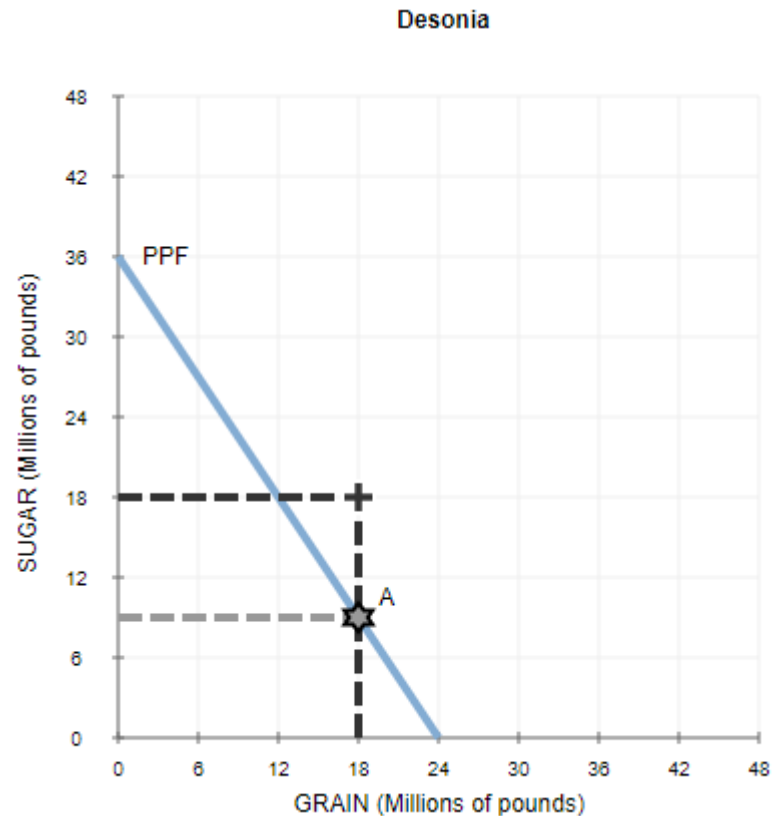
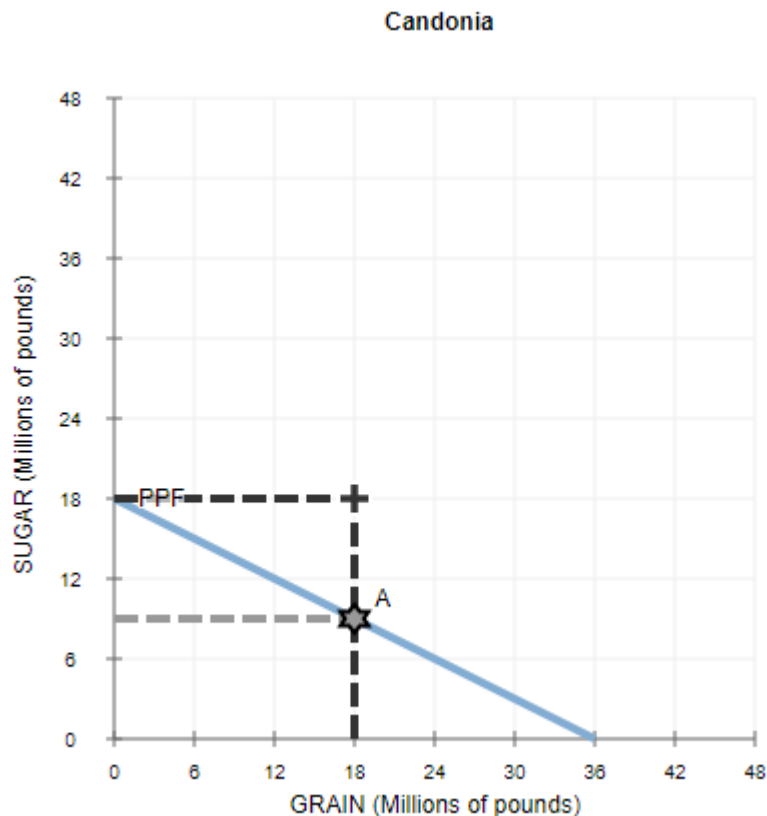
The countries decide to exchange 18 million pounds of grain for 18 million pounds of sugar.

This ratio of goods is known as the **price of trade** between Candonia and Desonia.

$$\text{Price of trade} = 18/18 = 1$$

$$\begin{aligned} (1/2 > \text{Price of trade} > 3/2) \\ (2/3 > \text{Price of trade} > 2/1) \end{aligned}$$

# Example: Specialization and trade



Without engaging in international trade, Candonia and Desonia **would not** have been able to consume at the after-trade consumption bundles.