Lecture 2: Supply, Demand & Market Equilibrium

Microeconomics

- Basic concepts
- Supply, Demand and Market equilibrium
- Elasticity
- Supply, Demand and Government Policies
- **International Trade**
- Production and Cost
- Market structures

Look for the answers to these questions:

- What determines how much of a good a country will import or export?
- Who benefits from trade? Who does trade harm? Do the gains outweigh the losses?
- If policymakers restrict imports, who benefits? Who is harmed? Do the gains from restricting imports outweigh the losses?
- What are some common arguments for restricting trade? Do they have merit?

World Price and Comparative Advantage

- P_W = the world price of a good, the price that prevails in world markets
- P_D = domestic price without trade
- If $P_D < P_W$,
  - Domestic country has comparative advantage, country exports the good
- If $P_D > P_W$,
  - Domestic country does not have comparative advantage, country imports the good

A Country That Exports Soybeans

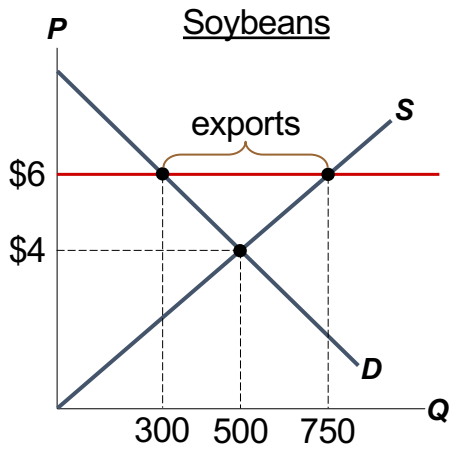
Without trade,

P_D = \$4 Q = 500

P_W = \$6

Under free trade,

- domestic consumers demand 300
- domestic producers supply 750
- exports = 450



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A Country That Exports Soybeans

Without trade,

CS = A + B

PS = C

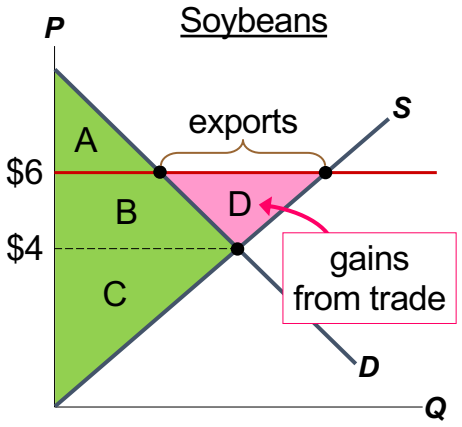
Total surplus = A + B + C

With trade,

CS = A

PS = B + C + D

Total surplus = A + B + C + D



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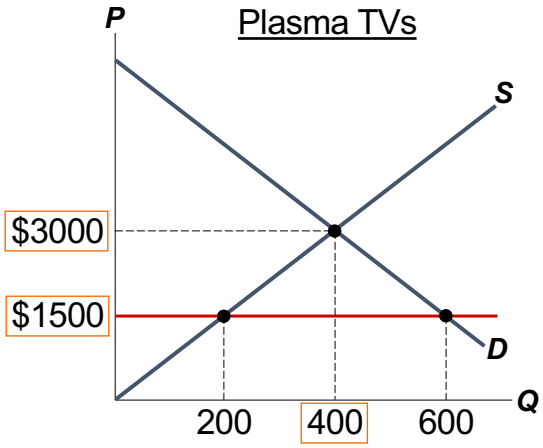
Analysis of Trade

Without trade,
P_D = \$3000, Q = 400

In world markets,
P_W = \$1500

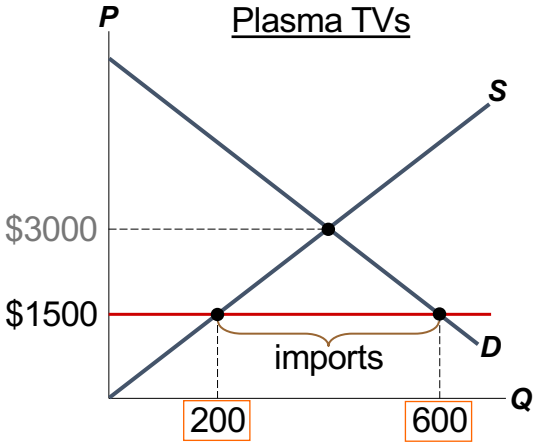
- Under free trade, how many TVs will the country import or export?
- Identify CS, PS, and total surplus without trade, and with trade.



Analysis of Trade

Under free trade,

- domestic consumers demand 600
- domestic producers supply 200
- imports = 400



Analysis of Trade

Without trade,

CS = A

PS = B + C

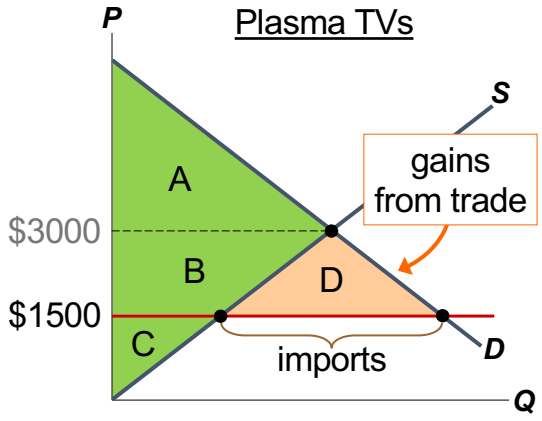
Total surplus = A + B + C

With trade,

CS = A + B + D

PS = C

Total surplus = A + B + C + D



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Winners and Losers From Trade

- **Other benefits of international trade**
  - Consumers: increased variety of goods
  - Producers: lower costs - economies of scale
  - Increased competition: reduce market power of domestic firms (increase total welfare)
  - Enhanced flow of ideas, facilitates the spread of technological advances around the world
- **Then why all the opposition to trade?** The losers have more incentive to organize and lobby for restrictions on trade:
  - Losses: concentrated among a small group of people, who feel them acutely
  - Gains: spread thinly over many people, who may not see how trade benefits them
  - The winners from trade could compensate the losers and still be better off

International trade

- **Free trade**: Domestic price = World price
- **Protection policies**:
  - **Closed economy:** no import or export
  - **Tariff**: Tax on goods produced abroad and sold domestically
  - **Quota**: Quantitative limit on imports of a good

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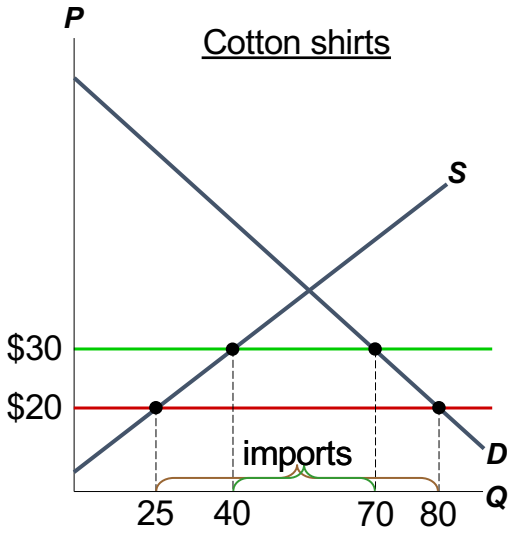
Analysis of a Tariff

P_W = \$20
Free trade:

buyers demand	80
sellers supply	25
imports =	55

***T* = \$10/shirt**

price rises to	\$30
buyers demand	70
sellers supply	40
imports =	30



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Analysis of a Tariff

Free trade

CS = A + B + C + D + E + F

PS = G

Total surplus = A + B + C + D + E + F + G

With tariff

CS = A + B

PS = C + G

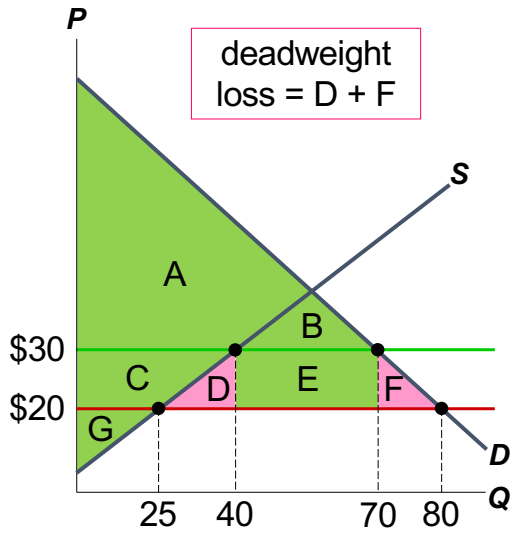
Tax revenue = E

Total surplus = A + B + C + E + G

DWL= D + F

D = deadweight loss from the overproduction

F = deadweight loss from the under-consumption



International trade

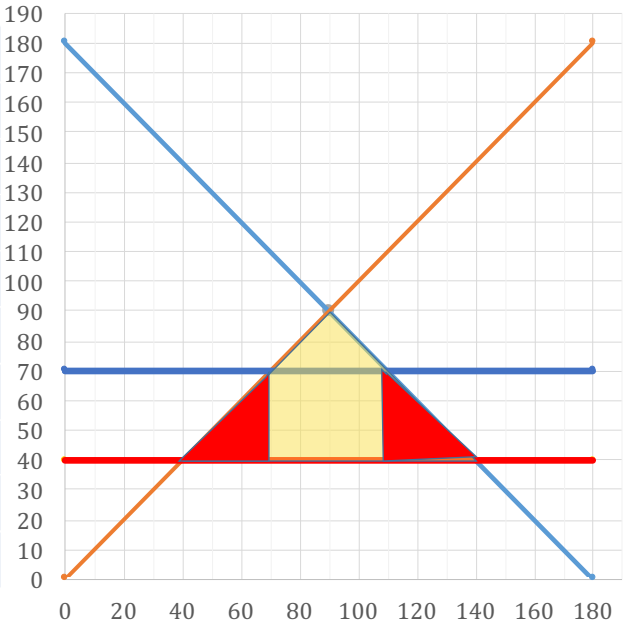
Demand Qd = 180-P

Pw = 40

Supply Qs = P

Tariff = 30

Items	Closed	Free Trade	Tax
Price	90	40	70
Total demand	90	140	110
Domestic Supply	90	40	70
Import	0	100	40
Tax	0	0	1200
Consumer Surplus	4050	9800	6050
Producer Surplus	4050	800	2450
DWL	2500	0	900
Total Surplus	8100	10600	9700

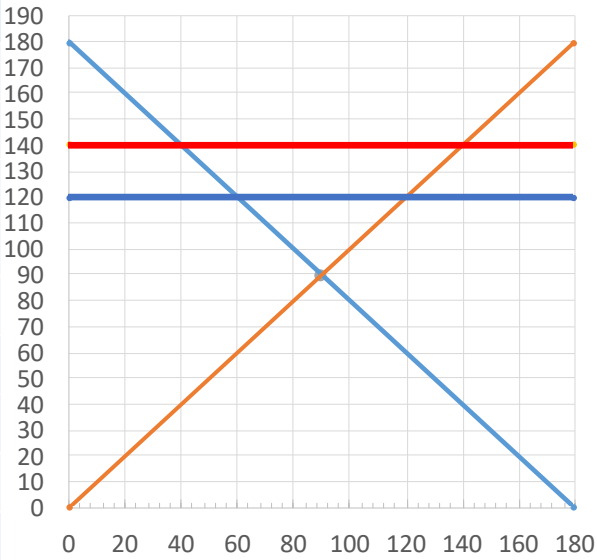


International trade: tariff

Demand Qd = 180-P Supply Qs = P

Pw = 140 **Tariff = 20**

Items	Closed	Free Trade	Tax
Price	90	140	120
Domestic demand	90	40	60
Domestic Supply	90	140	120
Export	0	100	60
Tax	0	0	1200
Consumer Surplus	4050	800	1800
Producer Surplus	4050	9800	7200
DWL	2500	0	400
Total Surplus	8100	10600	10200



Import Quotas

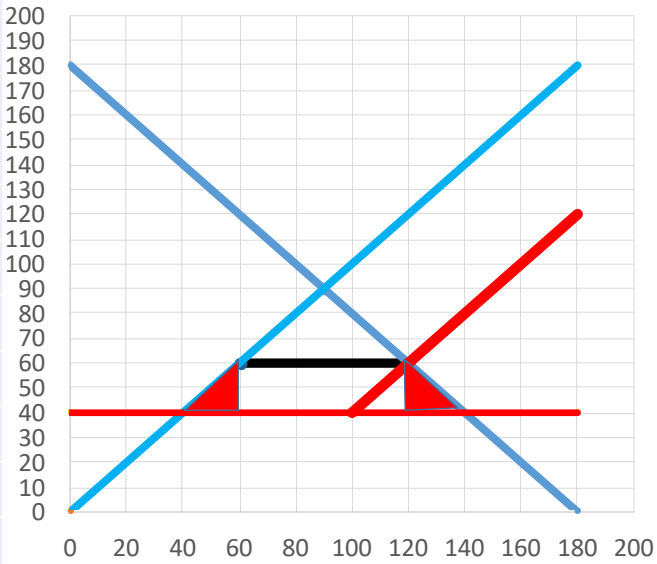
- Quantitative limit on imports of a good
- Mostly has the same effects as a tariff:
  - Raises price, reduces quantity of imports
  - Reduces buyers' welfare
  - Increases sellers' welfare
- Creates profits for the foreign producers of the imported goods, who can sell them at higher price

International trade: Quota

Demand Qd = 180-P
Pw = 40

Supply Qs = P
Quota = 60

Items	Free Trade	Closed	Quota
Price	40.0	90.0	60
Total demand	140.0	90.0	120
Domestic Supply	40.0	90.0	60
Import	100.0	0.0	60
Tax	0.0	0.0	0
Consumer Surplus	9800	4050	7200
Producer Surplus	800	4050	1800
DWL	0.0	2500	400
Total Surplus	10600	8100	10200



Arguments For Restricting Trade

- **The jobs argument**
  - "Trade with other countries destroys domestic jobs"
  - Free trade creates jobs at the same time that it destroys them
  - Total unemployment does not rise as imports rise, because job losses from imports are offset by job gains in export industries….
- **The infant-industry argument**
  - "New industries need temporary trade restriction to help them get started"
  - Difficult to implement in practice
  - The temporary policy is hard to remove
  - Protection is not necessary for an infant industry to grow

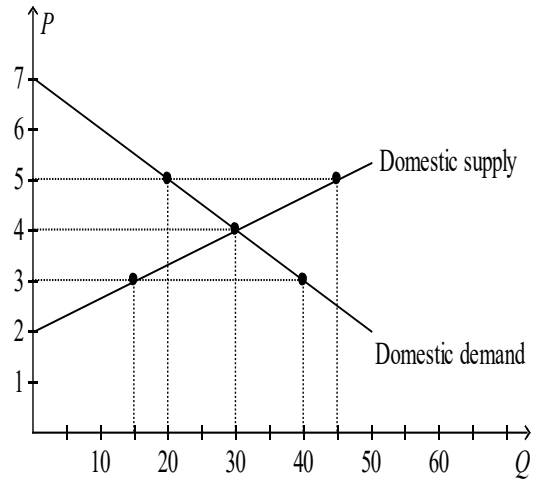
Arguments For Restricting Trade

- **The unfair-competition argument**
  - "Producers argue their competitors in another country have an unfair advantage, e.g. due to government subsidies"
  - Increase in total surplus for the country
    - We should welcome imports of low-cost products subsidized by the other country's taxpayers
    - The gains to our consumers will exceed the losses to our producers
- **The protection-as-a-bargaining-chip argument**
  - "Trade restrictions can be useful when we bargain with our trading partners"
  - The threat may not work

Arguments For Restricting Trade

- The national-security argument
  - "The industry is vital for national security and it should be protected from foreign competition, to prevent dependence on imports that could be disrupted during wartime"
  - When there are legitimate concerns over national security
    - But producers may exaggerate their own importance to national security to obtain protection from foreign competition

On the diagram below, *Q* represents the quantity of peaches and *P* represents the price of peaches. The domestic country is Isoland



1. Refer to Figure Suppose Isoland changes from a no-trade policy to a policy that allows international trade. If the world price of peaches is $5, then the policy change results in a

a. $25 decrease in consumer surplus.
b. $20 increase in consumer surplus.
c. $25 decrease in producer surplus.
d. $20 increase in producer surplus.

2. Refer to Figure Suppose Isoland changes from a no-trade policy to a policy that allows international trade. If the world price of peaches is $3, then the policy change results in a

a. $15.00 decrease in producer surplus.
b. $45.00 increase in consumer surplus.
c. $20.00 increase in total surplus.
d. $12.50 increase in total surplus.

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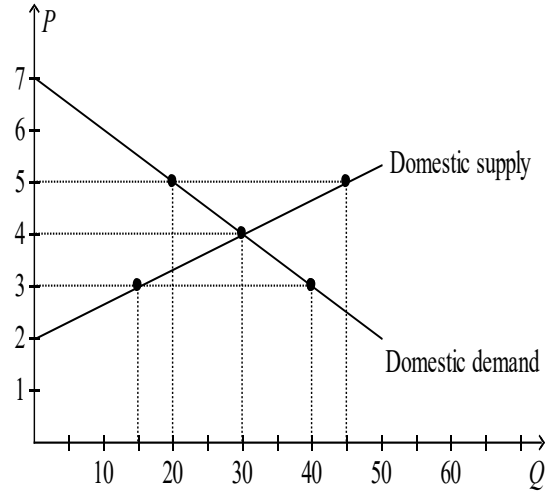
On the diagram below, *Q* represents the quantity of peaches and *P* represents the price of peaches. The domestic country is Isoland



3. Refer to Figure If Isoland allows international trade and the world price of peaches is $5, then

a. producer surplus will be smaller than it would be if Isoland banned trade.
b. consumer surplus will be smaller than it would be if Isoland banned trade.
c. the domestic quantity of peaches demanded will exceed the domestic quantity of peaches supplied.
d. Isoland will be an importer of peaches.

4. Refer to Figure Suppose Isoland changes from a no-trade policy to a policy that allows international trade. If the world price of peaches is $5, then the policy change results in

a. a decrease in consumer surplus.
b. an increase in producer surplus.
c. an increase in total surplus.
d. All of the above are correct.

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5. Refer to Figure Without trade, consumer surplus is

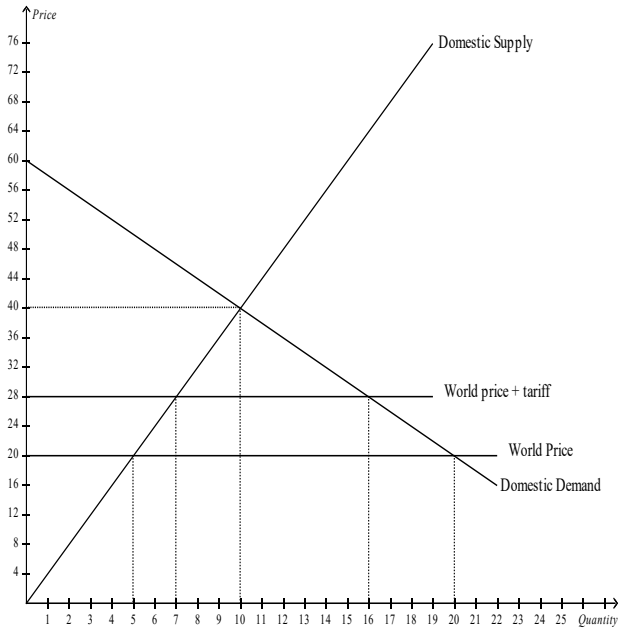
a. $100 and producer surplus is $50.
b. $100 and producer surplus is $200.
c. $400 and producer surplus is $50.
d. $400 and producer surplus is $200.

6. Refer to Figure With free trade, consumer surplus is

a. $100 and producer surplus is $50.
b. $100 and producer surplus is $200.
c. $400 and producer surplus is $50.
d. $400 and producer surplus is $200.

7. Refer to Figure With trade and a tariff, consumer surplus is

a. $202 and producer surplus is $50.
b. $202 and producer surplus is $98.
c. $256 and producer surplus is $50.
d. $256 and producer surplus is $98.



8. Refer to Figure Without trade, total surplus is

a. $150.
b. $300.
c. $450.
d. $600.

9. Refer to Figure With free trade, total surplus is

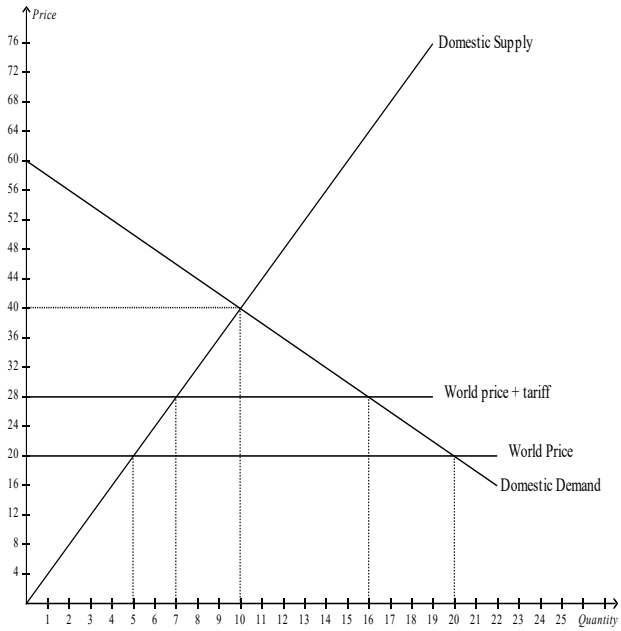
a. $150.
b. $300.
c. $450.
d. $600.

10. Refer to Figure With trade and a tariff, total surplus is

a. $306.
b. $354.
c. $378.
d. $426.

11. Refer to Figure With free trade, the country imports

a. 5 units of the good.
b. 10 units of the good.
c. 15 units of the good.
d. 20 units of the good.



12. Refer to Figure The amount of revenue collected by the government from the tariff is

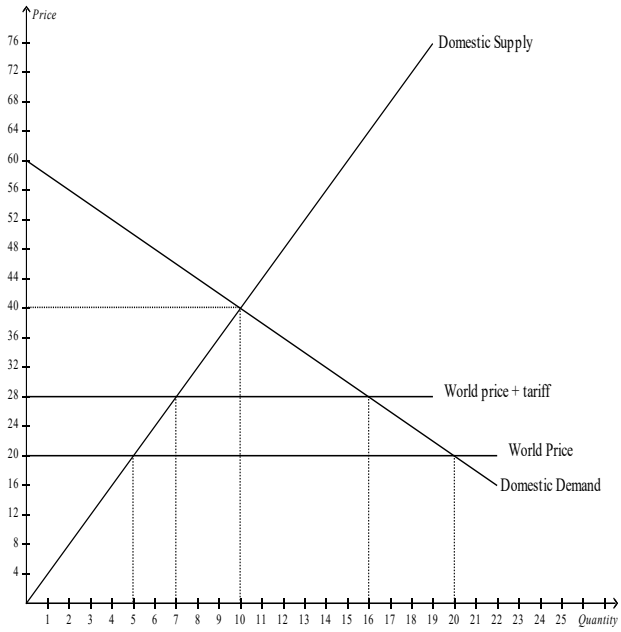
a. $8.
b. $72.
c. $180.
d. $252.

13. Refer to Figure The deadweight loss caused by the tariff is

a. $24.
b. $72.
c. $96.
d. $150.

14. Refer to Figure When comparing no trade to free trade, the gain from trade is

a. $72.
b. $100.
c. $150.
d. $450.



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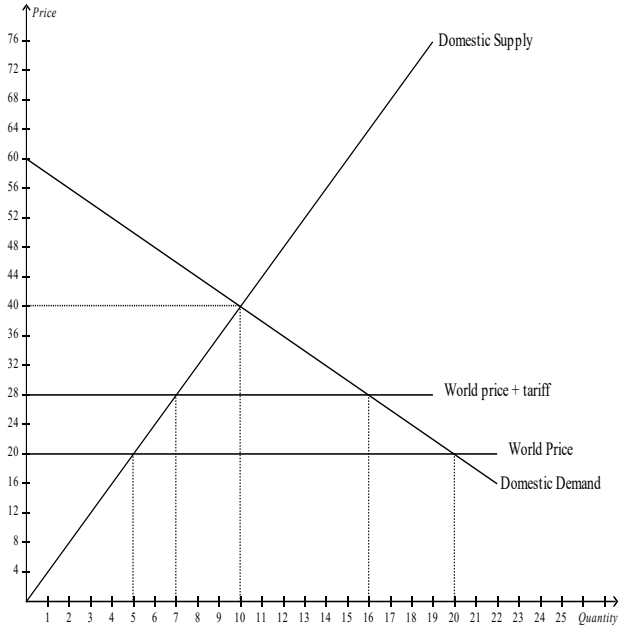
15. Refer to Figure When the country moves from no trade to free trade, consumer surplus

a. increases by $300 and producer surplus increases by $150.
b. increases by $300 and producer surplus decreases by $150.
c. decreases by $300 and producer surplus increases by $150.
d. decreases by $300 and producer surplus decreases by $150.

16. Refer to Figure When the country moves from free trade to trade and a tariff, consumer surplus

a. decreases by $144 and producer surplus does not change.
b. decreases by $144 and producer surplus increases by $48.
c. decreases by $198 and producer surplus does not change.
d. decreases by $198 and producer surplus increases by $48.



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Summary

- A country will **export** a good if the world price of the good is higher than the domestic price without trade.
  - Trade raises producer surplus, reduces consumer surplus, and raises total surplus.
- A country will **import** a good if the world price is lower than the domestic price without trade.
  - Trade lowers producer surplus but raises consumer and total surplus.
- A **tariff benefits** producers and generates revenue for the government, but the losses to consumers exceed these gains.

Summary

- Common arguments for **restricting trade** include: protecting jobs, defending national security, helping infant industries, preventing unfair competition, and responding to foreign trade restrictions.
- Some of these arguments have merit in some cases, but economists believe **free trade is usually the better policy**.

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