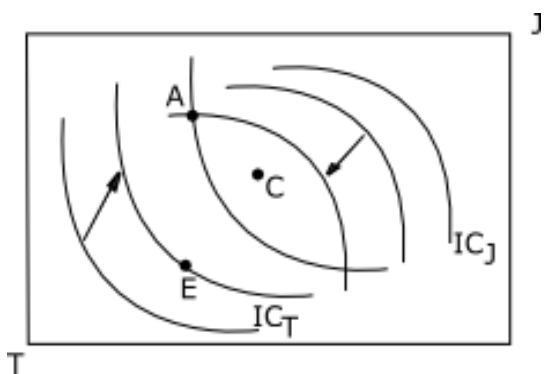


Var. A

1. [1 point]

There are two consumers in the economy, Tom and Jerry, and they consume milk (M) and cheese (C). Their indifference curves and initial endowment point (E) are depicted on the picture below.

- (a) Is point A a Pareto efficient allocation? Why?
- (b) Would Tom agree to exchange milk and cheese such that they would move from the endowment point E to point A? Why?



- (a) A is not a Pareto efficient allocation, because by moving to e.g. point C both Tom and Jerry could be better off.
- (b) Yes, because moving from point E to point A means moving to a higher indifference curve for Tom. So Tom has a higher utility in point A.

**2. [2 points]**

Consider the following curves.

Supply:  $P = 0.5Q$

Demand:  $P = 100 - 2Q$

- (a) Calculate market equilibrium price  $P^*$  and quantity  $Q^*$ .
- (b) Given the result from part (a) illustrate graphically consumer surplus and producer surplus.
- (c) Suppose that the government introduces quantity tax of \$5 per unit. Draw a new graph to illustrate this situation (you do not need to compute exact buyer's and seller's price after the tax has been introduced). Is the new equilibrium quantity higher or lower? Illustrate consumer surplus (CS), producer surplus (PS), government revenue (GR) and deadweight loss (DWL).

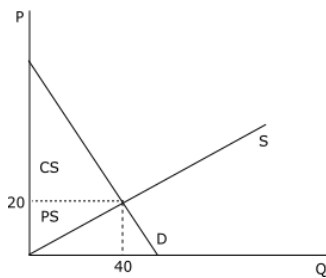
(a)

$$P = 0.5Q$$

$$P = 100 - 2Q \Rightarrow 0.5Q = 100 - 2Q \Rightarrow 2.5Q = 100$$

$$Q^* = 40 \text{ and } P^* = 20$$

(b) CS and PS.



(c) New equilibrium quantity is lower.

