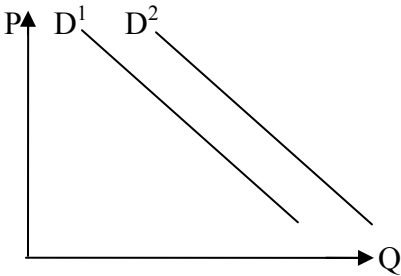# Econ 231 – Macroeconomics - Homework N2.
8 points total.

PRINT YOUR NAME _____

Figure 4.

N1 (2 points) Figure 4, let us assume, shows **demand for orange juice**. A decrease in population that consumes the juice will shift the Demand Curve from _____ to _____. A decrease in the price of soda will shift the Demand Curve from _____ to _____. An increase in the price of apple juice will shift the Demand Curve from _____ to _____. A decrease in income of buyers of orange juice will shift the Demand Curve from _____ to _____. (Answer examples: $D^1 \rightarrow D^2$ or $D^2 \rightarrow D^1$).

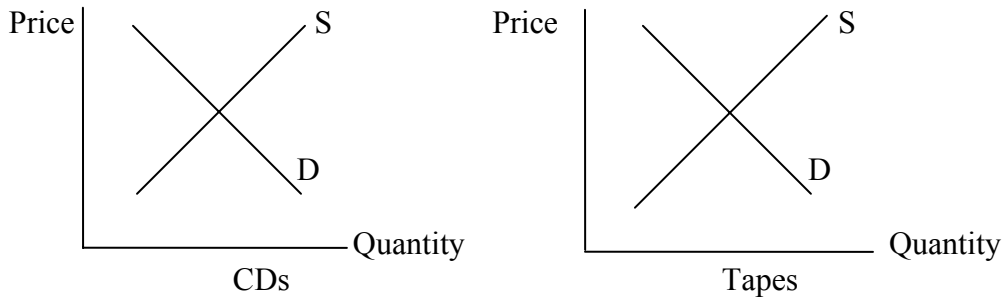**N2 (2 points)** Show what happens to the diagrams (how the equilibrium price and the equilibrium quantity change) if:

a) – there is an increase in the price of beef (a hamburger input):
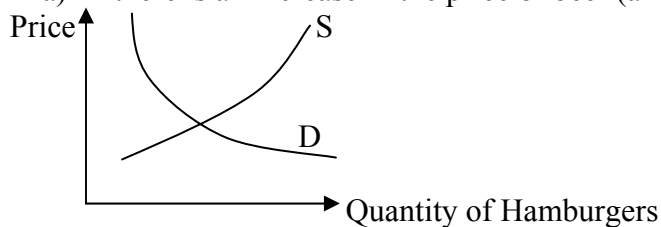
b) – several hamburger producers go out of business
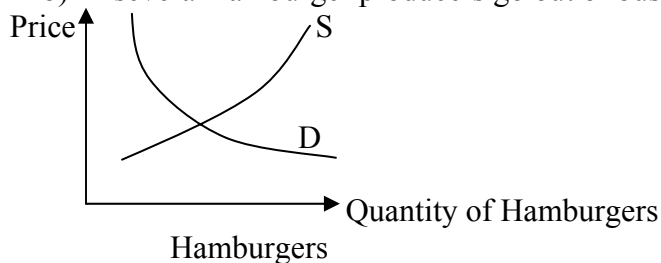
N3 (1 point) The two diagrams bellow show the supply and demand curves for two substitute commodities: tapes and compact discs (CDs):

Price   S   Price   S

D   D

Quantity   Quantity

CDs   Tapes

a) On the right-hand diagram, show what happens when rising price of raw materials (inputs) make it costlier to produce tapes;
b) On the left-hand diagram, show what happens to the markets for CDs as a secondary effect.

N4 (1 point) The demand and supply for T-shirts in Touristtown are given by the following equations:

$$Q^D = 200 - 40P \qquad\qquad Q^S = 130 + 30P$$

Where P is measured in dollars and Q is the number of T-shirts sold per year.
Find **the equilibrium price and equilibrium quantity algebraically (without a graph).**

N5 (2 points).
Suppose demand for a good can be described with the equation $Q^d = 180 - P$. And supply with the equation $Q^s = 20 + P$. Find ***the equilibrium price and the equilibrium quantity***. Determine if there is *a shortage or a surplus* if the price were $100, and how *big* that surplus or shortage would be. ***Show all your calculations***.