The lab is due by start of lab on November 14, 2012

The spread sheet also has the commands in the array category of the function wizard to work with matrices: **MINVERSE** and **MMULT**

Create a spreadsheet so that you can easily change the inputed numbers to get the desired answers. Remember that the formula for input-output problems is $X = AX + D$

Problem 1. A village has found that to produce $1 (1 unit) of food requires the usage of $0.20 of food, $0.10 of cloth, and $0.20 of wood. To produce $1 (1 unit) of cloth requires the usage of $0.20 of food, $0.10 of cloth, and $0.30 of wood. To produce $1 (1 unit) of wood requires the usage of $0.30 of food, $0.30 of cloth, and $0.10 of wood. All of the additional food, cloth, and wood is exported to a nearby city to meet their demand.

Question 1: For these demands, find how much of each category should the village produce so that they meet its own needs and the city's needs? How much of this production is used inernally? Round answers to the nearest cent.

Demand of $1920 worth of food, $1130 worth of cloth, and $1180 worth of wood.

Answer:
Production: Food = _____   Cloth = _____   Wood = _____

Internal Use: Food = _____   Cloth = _____   Wood = _____

Demand of $3000 worth of food, $3500 worth of cloth, and $2700 worth of wood.

Answer:
Production: Food = _____   Cloth = _____   Wood = _____

Internal Use: Food = _____   Cloth = _____   Wood = _____

Question 2: For the production levels of the village, compute how much of it can be exported to the city and how much of it is used internally.

Production of $1920 worth of food, $1130 worth of cloth, and $1180 worth of wood.

Answer:
Export: Food = _____   Cloth = _____   Wood = _____

Internal Use: Food = _____   Cloth = _____   Wood = _____

Production of $1400 worth of food, $700 worth of cloth, and $1700 worth of wood.

Answer:
Export: Food = _____   Cloth = _____   Wood = _____

Internal Use: Food = _____   Cloth = _____   Wood = _____

What do your results for this part indicate?

Problem 2. An economy is based on four sectors, agriculture(A), Energy(E), Labor(L), and manufacturing(M). The table gives the input requirements for a unit's worth of output for each sector along with the projected final demand(in billions of dollars). Find the output for each section that is needed to satisfy each of these final demands. **Round answers to one decimal place.**

		Output				Final demand		
		A	E	L	M	1	2	3
	A	0.05	0.17	0.23	0.09	23	32	55
Input	E	0.07	0.12	0.15	0.19	41	48	62
	L	0.25	0.08	0.03	0.32	18	21	25
	M	0.11	0.19	0.28	0.16	31	33	35

Answer #1: $A = $ _____ $E = $ _____ $L = $ _____ $M = $ _____

Answer #2: $A = $ _____ $E = $ _____ $L = $ _____ $M = $ _____

Answer #3: $A = $ _____ $E = $ _____ $L = $ _____ $M = $ _____

Once again e-mail me the spreadsheet showing how you solved these problems. Make sure your name is typed into the spreadsheet.