

The lab is due by 2 pm on November 10, 2017

**Create a spreadsheet so that you can easily change the inputted numbers to get the desired answers.** You should indicate what values are input information and what is calculated.

**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 internally? 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 production for each sector that is needed to satisfy each of these final demands. **Round answers to one decimal place.**

		Output			
		A	E	L	M
Input	A	0.05	0.17	0.23	0.09
	E	0.07	0.12	0.15	0.19
	L	0.25	0.08	0.03	0.32
	M	0.11	0.19	0.28	0.16

		Final demand		
		1	2	3
Input	A	23	32	55
	E	41	48	62
	L	18	21	25
	M	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.