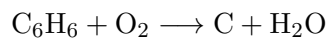
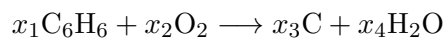


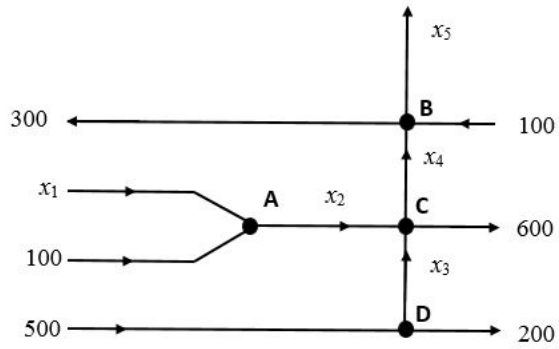
EX: [Chemical Equations] Liquid benzene (C_6H_6) burns in the atmosphere (O_2). If a cold object is placed over the benzene, a reaction occurs that results in water (H_2O) and soot, i.e. Carbon (C), forming on the object. The ***unbalanced*** chemical equation is given by



Since the atoms are neither created nor destroyed, the equation must be balanced by finding x_1, x_2, x_3 , and x_4 such that the total C, H, and O atoms on the LHS match the total on the RHS. i.e.



EX: [Traffic Flow] Construction causes the following traffic network (with one-way traffic). Determine the general flow for the network.



EX: [Economics] A primitive society currently barter 3 main goods: Food, Tools, and Clothing. The farmers keep 50% of the food themselves and give (i.e. trade) 30% to tool producers and 20% to clothing producers. The tool producers keep 30% of tools and give 35% to both food and clothing producers. The clothing manufacturers keep 40% of clothing and give 40% to the food producers and 20% to the tool producers.

The data can be summarized in the following

or Graphically

Exchange Table:

Food	Tools	Clothing	Traded To
			Food
			Tools
			Clothing

Now the society wants to introduce a monetary system and they want to know how to price the goods so that each group's expenses balances its income (i.e. _____).

Let

x_1 = price of food

x_2 = price of tools

x_3 = price of clothing

In order to be in equilibrium: Total Income = Total Expense

	Total Income	=	Total Expenses on		
			Food	Tools	Clothing
Food	x_1	=			
Tools	x_2	=			
Clothing	x_3	=			

Homework: Section 1.6, p. 55: #5, 7, 10, 13, 14, 3, 4

Read the Introduction to Chapter 1 (pp. 1-2) and write a paragraph summary.