Environmental class practice mathematics

1. Find the $\overline{M.W}$ of the gas mixture which contains 10 kg O_2, 20 kg N_2, 30 kg H_2 and 15 Kg NH_3. (^{16}O, ^{14}N, ^{1}H)

2. 10 charcoal (^{12}C) is to be burnt with required amount of air to produce CO_2 only. Find-
   a. Amour of air required (Kg)
   b. CO_2 amount produced (Kg)
   c. $\overline{M.W}$ of the exit gas stream.

3. 10 charcoal (^{12}C) is to be burnt with 20% more air than required to produce CO_2 only. Find-
   a. CO_2 amount produced (Kg)
   b. $\overline{M.W}$ of the exit gas stream.

4. 10kg charcoal (^{12}C) and 20 kg air reacts together to produce CO_2 only. Find-

a. Amour of air required (Kg)
b. CO_2 amount produced (Kg)
c. $\overline{M.W}$ of the exit gas stream.

5. 10 kg charcoal (^{12}C) is is to be burnt with required amount of air. 70% (mole) of the Charcoal converts to CO_2 and rests to CO. Find-

a. Amount of air required (Kg)
b. CO_2 and CO amount produced (Kg)
c. $\overline{M.W}$ of the exit gas stream.

6. 10 kg heptane (C_7H_{16}) is to be burnt with 50% more air than required to produce CO_2 only. Find-

a. CO_2 amount produced (Kg)
b. $\overline{M.W}$ of the exit gas stream.