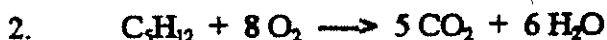


Answer on separate paper showing all work.

1. Consider the following equation :



- How many moles of I_4F_2 are produced by the complete reaction of 5.41 moles of fluorine ?
- How many moles of fluorine are needed to produce 4.52 moles of IF_5 ?
- What mass of iodine is needed to react with 7.63 grams of fluorine ?
- What mass of IF_5 is produced by the reaction of 154 grams of iodine ?



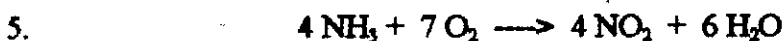
- What mass of BOTH products (separately) are formed when 105 g of pentane (C_5H_{12}) are burned ?
- What mass of oxygen is needed to produce 66.0 g of water, according to the above reaction ?
- What mass of pentane would release 107 g of CO_2 ?



- What mass of carbon disulfide is produced by reacting 241 g of carbon ?
- If we wish to produce 7.60 g of carbon disulfide, what mass of carbon should we use ? What mass of sulfur dioxide should we also use ? What mass of carbon monoxide would be produced as well ?



What mass of copper would result from decomposing 101 grams of cupric oxide ?



What mass of water is produced by the reaction of 3.40 grams of ammonia according to the above reaction ?



If you used 4.67 g of the hydrate, what mass of water would be driven off ?

answers:

- | | | | |
|-----|----------------------------|-----|----------------------|
| 1a) | 0.902 mole | 3a) | 306 g |
| b) | 13.6 moles | b) | 5.98 g C |
| c) | 25.5 g I_2 | | 12.8 g SO_2 |
| d) | 89.8 g | | 11.2 g CO |
| 2a) | 321 g CO_2 | 4) | 80.7 g |
| | 158 g H_2O | 5) | 5.40 g |
| b) | 156 g | 6) | 2.12 g |
| c) | 35.0 g | | |