

**+WS 4.3 STOICHIOMETRY part 1**

*Show all work using dimensional analysis!*



a) How many moles of sodium (Na) would be needed to react with 3.82 moles of oxygen (O<sub>2</sub>)?

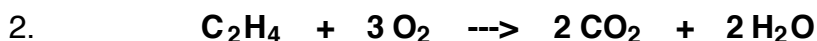
Ans \_\_\_\_\_

b) How many moles of Na<sub>2</sub>O can be produced from 13.5 moles Na?

Ans \_\_\_\_\_

c) How many moles of O<sub>2</sub> are needed to produce 34.7 g of Na<sub>2</sub>O?

Ans \_\_\_\_\_



a) When 0.624 moles of O<sub>2</sub> are reacted, how many moles of carbon dioxide are produced?

Ans \_\_\_\_\_

b) How many grams of C<sub>2</sub>H<sub>4</sub> are needed to produce 3.7 moles of water?

Ans \_\_\_\_\_

c) how many grams of O<sub>2</sub> are needed to react with 2.56 g of C<sub>2</sub>H<sub>4</sub>?

Ans \_\_\_\_\_



a) When 62.0 g of fluorine are reacted, how many moles of NF<sub>3</sub> will be formed?

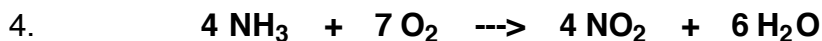
Ans \_\_\_\_\_

b) How many molecules of N<sub>2</sub> are needed to produce 2.85 g of NF<sub>3</sub>?

Ans \_\_\_\_\_

c) 3.54 g of nitrogen trifluoride will form from how many grams of fluorine?

Ans \_\_\_\_\_



a) What mass of NO<sub>2</sub> can be produced from 3.56 x 10<sup>22</sup> molecules of oxygen?

Ans \_\_\_\_\_

b) 13.8 g of NH<sub>3</sub> would be able to produce how many moles of H<sub>2</sub>O?

Ans \_\_\_\_\_

c) How many grams of O<sub>2</sub> are needed to produce 15.5 g of H<sub>2</sub>O?

Ans \_\_\_\_\_

**Ans (IRO+1):** 0.280 0.416 1.09 1.22 1.55 2.84 6.75 8.78 15.3 22.4 32.1 52 1.21x10<sup>22</sup>  
**Units (IRO+1):** mol mol mol mol mol mol g g g g g g molecules