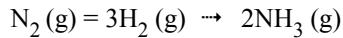


Chemistry

Study Guide: Stoichiometry 2



$$1 \text{ mole N}_2 = \underline{\underline{28}} \text{ g N}_2$$

$$1 \text{ mole H}_2 = \underline{\underline{2}} \text{ g H}_2$$

$$1 \text{ mole NH}_3 = \underline{\underline{17}} \text{ g NH}_3$$

$$1. 28 \text{ g N}_2 = \underline{\underline{1}} \text{ moles N}_2 = \underline{\underline{2}} \text{ moles NH}_3 = \underline{\underline{34}} \text{ g NH}_3$$

$$2. 14 \text{ g N}_2 = \underline{\underline{0.5}} \text{ moles N}_2 = \underline{\underline{1}} \text{ moles NH}_3 = \underline{\underline{17}} \text{ g NH}_3$$

$$3. 280 \text{ g N}_2 = \underline{\underline{10}} \text{ moles N}_2 = \underline{\underline{30}} \text{ moles H}_2 = \underline{\underline{60}} \text{ g H}_2$$

$$4. 140 \text{ g N}_2 = \underline{\underline{5}} \text{ moles N}_2 = \underline{\underline{10}} \text{ moles NH}_3 = \underline{\underline{170}} \text{ g NH}_3$$

$$5. 6 \text{ g H}_2 = \underline{\underline{3}} \text{ moles H}_2 = \underline{\underline{8}} \text{ moles NH}_3 = \underline{\underline{34}} \text{ g NH}_3$$

$$6. 24 \text{ g H}_2 = \underline{\underline{12}} \text{ moles H}_2 = \underline{\underline{1/3 (0.333)}} \text{ moles NH}_3 = \underline{\underline{8 \times 17}} \text{ g NH}_3$$

$$7. 2 \text{ g H}_2 = \underline{\underline{1}} \text{ moles H}_2 = \underline{\underline{3}} \text{ moles NH}_3 = \underline{\underline{28/3 (9.333)}} \text{ g NH}_3$$

$$8. 18 \text{ g H}_2 = \underline{\underline{9}} \text{ moles H}_2 = \underline{\underline{3}} \text{ moles N}_2 = \underline{\underline{3 \times 28}} \text{ g N}_2$$

$$9. 17 \text{ g NH}_3 = \underline{\underline{1}} \text{ moles NH}_3 = \underline{\underline{0.5}} \text{ moles N}_2 = \underline{\underline{14}} \text{ g N}_2$$

$$10. 170 \text{ g NH}_3 = \underline{\underline{10}} \text{ moles NH}_3 = \underline{\underline{5}} \text{ moles N}_2 = \underline{\underline{140}} \text{ g N}_2$$

$$1 \text{ mole of a gas @ STP} = \underline{\underline{22.4}} \text{ L}$$

$$11. 22.4 \text{ L N}_2 = \underline{\underline{1}} \text{ moles N}_2 = \underline{\underline{3}} \text{ moles NH}_3 = \underline{\underline{44.8}} \text{ L NH}_3$$

$$12. 11.2 \text{ L N}_2 = \underline{\underline{0.5}} \text{ moles N}_2 = \underline{\underline{1}} \text{ moles NH}_3 = \underline{\underline{22.4}} \text{ L NH}_3$$

$$13. 134.4 \text{ L H}_2 = \underline{\underline{6}} \text{ moles H}_2 = \underline{\underline{4}} \text{ moles NH}_3 = \underline{\underline{89.6}} \text{ L NH}_3$$

$$14. 33.6 \text{ L N}_2 = \underline{\underline{1.5}} \text{ moles N}_2 = \underline{\underline{4.5}} \text{ moles H}_2 = \underline{\underline{100.8}} \text{ L H}_2$$

$$15. 2.24 \text{ L NH}_3 = \underline{\underline{0.1}} \text{ moles NH}_3 = \underline{\underline{0.05}} \text{ moles N}_2 = \underline{\underline{1.12}} \text{ L N}_2$$

$$1 \text{ mole} = \underline{\underline{6 \times 10^{23}}} \text{ particles}$$

$$16. 6 \times 10^{23} \text{ molecules N}_2 = \underline{\underline{1}} \text{ moles N}_2 = \underline{\underline{3}} \text{ moles H}_2 = \underline{\underline{18 \times 10^{23}}} \text{ molecules H}_2$$

$$17. 3 \times 10^{23} \text{ molecules N}_2 = \underline{\underline{0.5}} \text{ moles N}_2 = \underline{\underline{1}} \text{ moles NH}_3 = \underline{\underline{6 \times 10^{23}}} \text{ molecules NH}_3$$

$$18. 36 \times 10^{23} \text{ molecules H}_2 = \underline{\underline{6}} \text{ moles H}_2 = \underline{\underline{4}} \text{ moles NH}_3 = \underline{\underline{24 \times 10^{23}}} \text{ molecules NH}_3$$

$$19. 60 \times 10^{23} \text{ molecules N}_2 = \underline{\underline{10}} \text{ moles N}_2 = \underline{\underline{30}} \text{ moles H}_2 = \underline{\underline{180 \times 10^{23}}} \text{ molecules H}_2$$

$$20. 15 \times 10^{23} \text{ molecules N}_2 = \underline{\underline{2.5}} \text{ moles N}_2 = \underline{\underline{7.5}} \text{ moles H}_2 = \underline{\underline{45 \times 10^{23}}} \text{ molecules H}_2$$

$$21. 56 \text{ g N}_2 = \underline{\underline{12}} \text{ g H}_2$$

$$22. 44.8 \text{ L N}_2 = \underline{\underline{89.6}} \text{ L NH}_3$$

$$23. 12 \times 10^{23} \text{ molecules N}_2 = \underline{\underline{36 \times 10^{23}}} \text{ molecules H}_2$$

2 mole

6 mole