

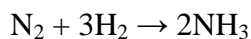
Chem 1020

Mole conversions and stoichiometry worksheet

1. How many Ag atoms are in 2.43 mol Ag atoms?
2. How many Br₂ molecules are in 18.2 mol Br₂ molecules?
3. 7.53×10^{28} Al atoms is equal to how many mol Al atoms?
4. 2.932×10^{17} H₂O molecules is equal to how many mol H₂O molecules?
5. How many mol N atoms are in 8.3 mol HCN?
6. How many mol H atoms are in 2.63 mol CH₂O?
7. How many Cl atoms are in 3.63 mol CH₂Cl₂?
8. How many O atoms are in 6.229 mol Ca(NO₃)₂?
9. How many mol FeCl₃ are in 15.3 g FeCl₃?
10. How many mol Na₂CO₃ are in 23.5 g Na₂CO₃?
11. What mass is 3.52 mol NaNO₃?

12. What mass is 7.326 mol C₂H₄?
13. How many mol H atoms are in 18.2 g NH₃?
14. How many mol O atoms are in 3.52 g MnO₂?
15. How many S atoms are in 2.35 g Al₂S₃?
16. How many F atoms are in 5.52 g C₂H₂F₄?
17. What mass of O is in 7.56 g H₂O₂?
18. What mass of Cl is in 38.2 g PCl₃?

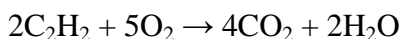
For the following 6 questions, consider the following balanced chemical equation:



19. How many mol NH₃ can be produced from 7.23 mol N₂ (assuming H₂ is in excess)?
20. How many mol H₂ must react with 3.26 mol N₂?
21. How many grams of N₂ must react if 25.0 g NH₃ are formed?
22. How many grams H₂ will react with 15.3 g N₂?

23. If 2.36 g N₂ and 1.52 g H₂ react together, what mass NH₃ can be produced? Which is the limiting reactant?
24. If 5.32 g N₂ and 15.8 g H₂ react together, what mass NH₃ can be produced? Which is the limiting reactant?

For the following 6 questions, consider the following balanced chemical equation:



25. How many mol of CO₂ can be formed if 8.26 mol C₂H₂ react (assuming excess O₂)?
26. How many mol C₂H₂ will react with 20.3 mol O₂?
27. How many g of H₂O can be formed if 36.2 g C₂H₂ react (assuming excess O₂)?
28. How many g O₂ will react with 12.2 g C₂H₂?
29. If 2.13 g C₂H₂ and 3.63 g O₂ react, how many grams CO₂ can be formed? Which is the limiting reactant?
30. If 6.26 g C₂H₂ and 22.35 g O₂ react, how many grams H₂O can be formed? Which is the limiting reactant?