

CHM1025 Cumulative Practice

- Lithium belongs to the _____ group of the periodic table.
 - alkali metal
 - alkaline earth
 - halogens
 - noble gases
- Gaseous elements characterized by low reactivity are found in group ____ of the periodic table.
 - 5A
 - 6A
 - 7A
 - 8A
- The factor 0.000000001 corresponds to which prefix?
 - Giga
 - micro
 - nano
 - pico
- Convert 0.003002 to standard scientific notation.
 - 3.002×10^{-3}
 - 3002×10^{-6}
 - 3.002×10^3
 - 3002×10^6
- A student weighed 3000 g of sulfur in the lab. This is the same mass as
 - 3.000×10^{-6} g.
 - 3.000×10^{-3} kg.
 - 3.000×10^6 mg.
 - 3.000×10^6 ng.
- How many protons (p), neutrons (n), and electrons (e) are in one atom of ${}^{26}_{12}\text{Mg}$?
 - 12 p, 12 n, 12 e
 - 12 p, 14 n, 12 e
 - 12 p, 26 n, 10 e
 - 26 p, 14 n, 26 e
- An element has two naturally occurring isotopes. One has an abundance of 37.4% and an isotopic mass of 184.953 amu, and the other has an abundance of 62.6% and a mass of 186.956 amu. What is the atomic weight of the element?
 - 185.702 amu
 - 185.954 amu
 - 186.207 amu
 - 186.956 amu
- What is the charge on the Cr in Cr_2O_3 ?
 - 2-
 - 1+
 - 2+
 - 3+

9. Li_2S is named.
- lithium disulfide.
 - lithium sulfide.
 - lithium(II) sulfide.
 - lithium sulfur.

10. What is the formula for strontium hydroxide?
- SrH_2
 - SrOH
 - SrOH_2
 - $\text{Sr}(\text{OH})_2$

11. The formula for dinitrogen trioxide is
- $\text{N}(\text{OH})_3$
 - $(\text{NO}_3)_2$
 - N_2O_3
 - N_3O_2

12. The compound $\text{Cu}(\text{ClO}_3)_2$ is named
- copper chlorate(II)
 - copper(I) chlorate
 - copper(I) chlorate(II)
 - copper(II) chlorate

13. By analogy with the oxoanions of sulfur, H_2TeO_3 would be named
- hydrotellurous acid
 - pertelluric acid
 - telluric acid
 - tellurous acid

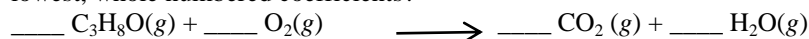
14. The ions ClO_4^- , ClO_3^- , ClO_2^- , and ClO^- are named respectively
- hypochlorate, chlorate, chlorite, perchlorite
 - hypochlorite, chlorite, chlorate, perchlorate
 - perchlorate, chlorate, chlorite, hypochlorite
 - perchlorite, chlorite, chlorate, hypochlorate

15. NO_2 is
- nitrate.
 - nitrite.
 - nitrogen dioxide.
 - nitrogen(II) oxide.

16. NO_2^- is the
- nitrate ion.
 - nitrite ion.
 - nitrogen dioxide ion.
 - nitrogen(II) oxide ion.

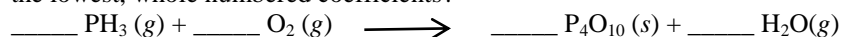
17. The formula for sulfurous acid is
- $\text{H}_2\text{S}(\text{aq})$
 - $\text{H}_2\text{SO}_3(\text{aq})$
 - $\text{H}_2\text{SO}_4(\text{aq})$
 - $\text{H}_2\text{S}_2\text{O}_7(\text{aq})$

18. What is the coefficient for oxygen when the following equation is balanced using the lowest, whole numbered coefficients?



- a) 3
- b) 5
- c) 7
- d) 9

19. What is the **sum** of the coefficients when the following equation is balanced using the lowest, whole numbered coefficients?



- a) 10
- b) 12
- c) 19
- d) 22

20. Calcium phosphate reacts with sulfuric acid to form calcium sulfate and phosphoric acid. What is the coefficient for sulfuric acid when the equation is balanced using the lowest, whole-numbered coefficients?

- a) 1
- b) 2
- c) 3
- d) none of these

21. How many grams are there in 0.500 mol of dichlorodifluoromethane, CF_2Cl_2 ?

- a) 4.14×10 g
- b) 60.5 g
- c) 121 g
- d) 242 g

22. How many moles are there in 1.50 g of ethanol, $\text{CH}_3\text{CH}_2\text{OH}$?

- a) 0.0145 mol
- b) 0.0326 mol
- c) 30.7 mol
- d) 69.0 mol

23. What is the molar mass of butane if 5.19×10^{16} molecules weigh 5.00 μg ?

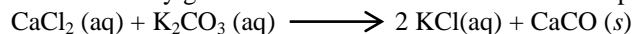
- a) 58.0 g/mol
- b) 172 g/mol
- c) 232 g/mol
- d) 431 g/mol

24. How many moles of CuO are produced from 0.450 mol of Cu_2O in the following reaction?



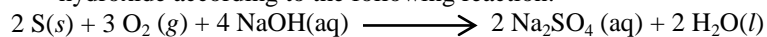
- a) 0.225 mol
- b) 0.450 mol
- c) 0.900 mol
- d) 4.44 mol

25. How many grams of calcium chloride are needed to produce 10.0 g of potassium chloride?



- a) 3.36 g
- b) 7.44 g
- c) 14.9 g
- d) 29.8 g

26. Which substance is the limiting reagent when 2.0 g of sulfur reacts with 3.0 g of oxygen and 4.0 g of sodium hydroxide according to the following reaction:



- a) S
- b) O
- c) NaOH
- d) all react equally

27. How many grams of the excess reagent are left over when 6.00 g of CS₂ gas react with 10.0 g of Cl₂ gas in the following reaction:



- a) 2.42 g
- b) 2.77 g
- c) 3.58 g
- d) 4.00 g

28. What is the concentration when 10.0 g of FeCl₃ is dissolved in enough water to make 275 mL of solution?

- a) 2.24×10^{-4} M
- b) 0.224 M
- c) 4.46 M
- d) 4.46×10^3 M

29. How many grams of AgNO₃ are needed to make 250. mL of a solution that is 0.135 M?

- a) 1.99 g
- b) 3.15 g
- c) 5.73 g
- d) 9.17 g