

Name: _____ Period ____ Units 04-08 Semester Two Exam Practice Test

Drill 11: Formulas to Names: What is the name of the compound with the formula $\text{Al}_2(\text{SO}_4)_3$?

Drill 12: Names to Formulas: What is the formula for the compound diboron trisulfide?

Drill 14: $\text{C}_2\text{H}_3\text{O}_2\text{Br}$ + $\text{O}_2 \Rightarrow$ CO_2 + H_2O + HBr

Drill 15: Calculate the mass of: $\text{Co}(\text{NO}_2)_2$

Drill 16: A sample of $\text{C}_6\text{H}_{14}\text{O}_3$ contains 41.2 grams of C. How many moles of $\text{C}_6\text{H}_{14}\text{O}_3$ are present?

Drill 17: For the compound whose formula is $\text{Fe}_2(\text{SO}_4)_3$, enter the mass % for each component element in the appropriate cell

Fe

S

O

Drill 18: What is the mass in grams of 0.495 moles of Cd?

Drill 19: A compound has the following mass% composition. Determine the empirical formula, enter the values for each element in the appropriate cell.

C:70.5%

H:13.8%

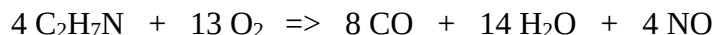
O:15.7%

C H O

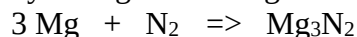
Drill 20: 424 g/mole 0.875 moles

GFW(g/mole)	Mass(g)	Moles
424		0.875

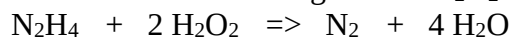
Drill 21: For the balanced equation shown below, how many moles of $\text{C}_2\text{H}_7\text{N}$ will react with 0.8016 moles of O_2 ?



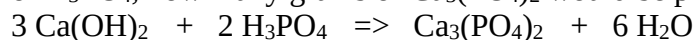
Drill 22: For the balanced equation shown below, how many grams of Mg_3N_2 be produced by 34.4 grams of Mg?



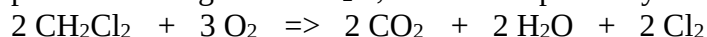
Drill 23: For the balanced equation shown below, what would be the limiting reagent if 23.2 grams of N_2H_4 were reacted with 71.3 grams of H_2O_2 ?



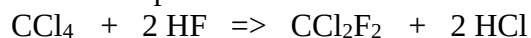
Drill 24: For the balanced equation shown below, if 16.4 grams of Ca(OH)_2 were reacted with 10.7 grams of H_3PO_4 , how many grams of $\text{Ca}_3(\text{PO}_4)_2$ would be produced?



Drill 25: For the balanced equation shown below, if the reaction of 12.7 grams of CH_2Cl_2 produces 2.41 grams of H_2O , what is the percent yield?



Drill 26: For the balanced equation shown below, how many moles of CCl_4 reacted, if 148 grams of HCl are produced?



Drill 27: If 0.815 moles of Xe effuses in 787seconds, how many seconds would it take for the same number of moles of H_2S to effuse?

$$\frac{\text{Rate A}}{\text{Rate B}} = \frac{\sqrt{\text{molar mass B}}}{\sqrt{\text{molar mass A}}}$$

Drill 28: A gas system has an initial pressure of 2.22 atm with the volume unknown. When the pressure changes to 5140 torr the volume is found to be 2140 mL What was the initial volume in L?

$$P_1 V_1 = P_2 V_2$$

Drill 29: A gas system has initial volume and temperature of 464 mL and 58.2°C If the temperature changes to 5380 K, what will the resultant volume be in L?

$$V_1/T_1 = V_2/T_2$$

Drill 30: A closed gas system initially has pressure and volume of 1.14 atm and 9.57 L with the temperature unknown. If the same closed system has values of 1370 torr, 1.27 L and -71.00°C , what was the initial temperature in K?

$$P_1 V_1/T_1 = P_2 V_2/T_2$$

Drill 31: A gas system has volume, amount and temperature of 9460 mL, 0.677 moles and -47.00°C , respectively. What is the pressure in atm?

$$PV = nRT$$

$$R = 0.0821 \text{ L}\cdot\text{atm}/\text{mole}\cdot\text{K}$$

Drill 32: $M = n/V$

1.12 M

0.821 moles

Molarity	Moles	Vol(L)
1.12	0.821	

Drill 33: How many mg are in 498 mL of a 1.84 M solution of calcium nitrate?

Drill 34: The K_b of water is $0.512 \text{ kg}^\circ\text{C}/\text{mole}$ and the K_f of water is $1.860 \text{ kg}^\circ\text{C}/\text{mole}$. The equations are: $\Delta T_b = K_b \cdot m$ and $\Delta T_f = K_f \cdot m$

Solute	Solute(grams)	Water Mass(g)	FP	BP
HNO_3	15.20	215.2		