

2202 Review For Midyear

1. Calculate the percentage composition of ammonia.
2. Find the empirical formula for a compound that is 46.3% lithium and 53.7% oxygen.
3. A compound's molar mass is 240.28 g/mol. Its percentage composition is 75.0% carbon, 5.05 % hydrogen, and 20.0% oxygen. What is the compound's molecular formula?
4. Complete the following chart:

Isotope Name	Isotope Symbol	Atomic Number	# of Protons	# of Electrons	Mass #	# of Neutrons
oxygen-17						
hydrogen-2						
		57			138	
			11			12

5. What mass of sulfur is required to produce 32 L of sulfur trioxide at STP during its reaction with oxygen?
6. 2.7 kg of gasoline, C_8H_{18} , is reacted with oxygen. What was the volume of carbon dioxide produced at STP?
7. 1.6 mol of $LiOH(s)$ react with excess $BaBr_2(s)$. Find the number of moles of barium bromide that will react.
8. 67.8 g of glucose is decomposed into its elements. What should the mass of carbon produced equal?
9. 56.00 g of cobalt is mixed with sulfuric acid. Find the volume of hydrogen gas produced if the conditions were at STP.
7. How many grams does 5.2×10^{26} molecules of $CuBr$ weigh?
8. How many molecules are there in 0.655 g of C_6H_{14} ?
9. How many Litres are there in 2.35×10^{24} molecules of steam at STP?
10. How many grams does 5.60×10^{22} molecules of SiO_2 weigh?
11. How many molecules are there in 21.6 L of methane at STP?