1. If you dissolved 72.1 grams of NaBr (molecular mass 102.89 g/mol) in water to prepare 500 ml of solution, what is the molarity of this solution? (not sure if its going to ask to show our work, but if it does here it goes)

   Moles = 72.1 g/ 102.89 g/mol = 0.700 moles

   500ml = 0.5 liters

   Molarity = 0.700 moles/0.5 liters = 1.40 M

   So, the molarity of the NaBr solution is approximately 1.40 M.

2. If a sample of gas with a volume of 20 ml at a pressure of 6 ATM is moved to an area with a pressure 2 ATM, what is the new volume of the gas?

   The new volume of the gas is 60 mL.

3. You prepare a solution by dissolving CaCl2 in water to make a 3.0 M solution. What is the osmolarity of this solution?

   9.0 Osm/L

4. At a fixed temperature pressure, a 6.0 mole sample of an ideal gas occupies 134.4 L. After using up some of this gas, I have 104.0 L of gas left in my sample. How many moles of gas do I now have in my sample? **You now have 4.64 moles of gas in your sample.**

5. When 0.3 grams of potassium iodide is dissolved in 60 ml of water in a beaker, the solute is: **The solute is potassium iodide (KI).**

6. You have 2.4 L of a 5.6 M LiCl solution. How many L of a 3.2 M LiCl solution could you produce by diluting this solution?

4.2 L

7. Balance the following chemical equation: C7H16+O2 CO2+H20. Which of the below represents this properly balanced reaction?

C7H16 + 11O2 7CO2 + 8H2O

8. Consider the compound with the chemical formula: (NH4)2SO4. What is the molecular mass of this compound?

132 g/mol

9. In the acid base reaction: KOH + HBr H2O + KBr. What is the base in the chemical reaction?

KOH

10. You dissolve a sample of LiCl in water. The molarity of this solution is 0.3 M. What is the osmolarity of this solution?

0.6 Osm/L

11. You have 0.4 moles of C3H8 that you combust (balanced chemical reaction is: C3H8 + 3 O2 3 CO2 + 4 H2O), how many moles of CO2 will you generate?

1.2 moles

12. You added 2 grams HCI to 80 ml of water. What would you expect to occur?

HCI dissociates fully into H+ and Cl- ions causing the water to become strongly acidic.

13. Predict the products of this neutralization reaction. Select all that apply. HCI + RbOH