Molarity(M) and Molar Dilutions Practice

Name: _____

MOLARITY: Answer each of the following problems by showing your formula, work, and answer circled.

1. What is the molarity of a solution containing 0.875 mol of ammonia in 155 mL of solution?

2. What is the molarity of a solution containing 9.33 g Na_2S in 450. mL solution?

3. How many moles of solute are contained in a solution containing 125 mL of 0.0500 M $Ba(OH)_2$?

4. How many grams of solute are contained in a solution of 142 mL of 1.40 M K_2SO_4?

MOLAR DILUTIONS: Answer each of the following problems by showing your formula, work, and answer.

5. How many milliliters of 2.55M NaOH are needed to make 125 mL of 0.0750M NaOH solution?

6. How many milliliters of 0.400M HBr solution can be made from 50.0 mL of 8.00M HBr solution?

7. What is the molarity of each resulting solution when the following mixtures are prepared?

   a. 500. mL H_2O is added to 20.0 mL 6.00M HNO_3

   b. **CHALLENGE PROBLEM:** 30.0 mL of a 1.75M HCl is added to 80.0 mL of 0.450M HCl