

Name: _____ Per _____

Dilution & Molarity
PS #36

Show your work below and match each answer provided with the correct question. Write the question number in the space beside the answer.

- | | | |
|----------------|-----------------|---------------|
| _____ 2.4 L | _____ 0.113 M | _____ 0.259 g |
| _____ 0.25 M | _____ 0.040 mol | _____ 2.0 mol |
| _____ 0.1875 M | _____ 0.040 M | _____ 0.50 M |
| _____ 0.50 L | _____ 1.8 M | _____ 0.25 L |
| _____ 7.4 g | _____ 0.050 M | |

- (1) Determine the concentration of a solution of CaCl_2 that contains 0.20 mol in 5.0 L.
- (2) Determine the number of moles of AgNO_3 present in 0.50 L of 4.0 M solution
- (3) What is the volume if a 2.5 M solution of $\text{Al}(\text{NO}_3)_3$ contains 6.0 mol?
- (4) What is the molarity of solution containing 0.10 mol of NaI dissolved in 400 mL?
- (5) Determine the molarity of a solution that contains 5.00 g of H_3PO_4 in 450 mL.
- (6) Calculate the mass of LiF in 100 mL of 0.100 M solution
- (7) What is the final concentration if 5.0 L of a 0.10 M NaCl solution is diluted to a final volume of 10 L?
- (8) What is the final volume if 200 mL of a 2.0 M HCl solution is diluted to a final concentration of 0.80 M?
- (9) What is the initial concentration of a solution if 400 mL of CuSO_4 solution is diluted to 800 mL of solution with a concentration of 0.90 M?
- (10) Calculate the initial volume of 6.0 M HNO_3 solution required to make 1.5 L of 1.0 M solution.
- (11) What is the final concentration if 200 mL of water are **ADDED** to 600 mL of a 0.25 M solution?
- (12) 80 mL of a solution containing magnesium bromide is diluted to a final concentration of 0.40 M by **ADDING** 20 mL of water.
 - (a) Determine the initial concentration of the solution.
 - (b) Determine the number of moles of magnesium bromide present in the solution.
 - (c) Calculate the mass of magnesium bromide present in the solution.