<u>**Molarity Practice Worksheet**</u>   name: _____

astrological sign: _____

Write *which form* (1-3) of the molarity equation you will use in the spot to the left of the problem.

___1) You add 0.25 moles of NaCl to distilled water to make 0.500 L of solution.   Find the molarity:

___2) You add 20.0 grams of NaCl to distilled water to make 1.00 L of solution. Find the molarity:

___3) You add 80.0 grams of NaOH to water to make 2.00 L of solution.   Find the molarity:

___4) You have 3.50 Liters of 2.00 Molar NaOH. How many *moles* of NaOH are present?

___5) You need to obtain 0.500 moles of NaCl, but you only have a large bottle that says 4.00 M NaCl. How many *liters* of this solution do you need?

___6a) You need to make 2.00 L of 6.0 Molar KOH.   How many moles of KOH do you need?

6b) Convert your moles of KOH in (6a) to grams.

7)   You add 55.0 grams of NaOH to one liter of water and stir it in.   You then add more water until the total volume of the solution is 1.50 Liters. Find the molarity of this dilute solution.

Dilution Review: $M_1V_1 = M_2V_2$ Name: _____

1) You start with 20.0 mL of 0.75 M KI and you add 5.0 mL of water. Find the new, dilute molarity of KI.

$M_1=$
$V_1=$
$M_2=$ _?_ M
$V_2=$

2) You add 10.0 mL of water to 15.0 mL of 3.0 M NaCl. Find the new molarity of NaCl.

3) You start with 15.0 mL of 0.10 M Na_2SO_4 and you add 10.0 mL of water. What is your new molarity?

4) DO THIS ONE WITHOUT A CALCULATOR.   You start with 10.0 mL of 1.0 M NaCl. You add 10.0 mL of water. What is your new NaCl molarity?

5) You have a solution of salt water that you leave open to the air on a hot day. After a few hours, what do you think has occurred to the concentration of the salt water? Explain!

6) You have a 50.0 mL of a 2.50 M NaCl solution. You leave it out open in the sun, and return to find that you only have 40.0 mL of liquid left. Assuming none of the NaCl evaporated (only the water did), find the new, more concentrated molarity.

7) Normal saline solution used to hydrate to hydrate people intravenously has a NaCl concentration of 0.90%. this is about 9.0 grams per liter. Find the molarity of this NaCl solution.