**Chemistry B Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **Period\_\_\_\_\_\_\_**

**Molarity Practice**

1. Sea water contains roughly 28.0 g of NaCl per liter. What is the molarity of sodium chloride in sea water?

2. What is the molarity of 245.0 g of H2SO4 dissolved in 1.00 L of solution?

3. What is the molarity of 5.30 g of Na2CO3 dissolved in 400.0 mL solution?

4. What is the molarity of 5.00 g of NaOH in 750.0 mL of solution?

5. How many moles of Na2CO3 are there in 10.0 L of 2.0 M soluton?

6. How many moles of Na2CO3 are in 10.0 mL of a 2.0 M solution?

7. How many moles of NaCl are contained in 100.0 mL of a 0.20 M solution?

8. What weight (in grams) of NaCl would be contained in problem 7?

9. What weight (in grams) of H2SO4 would be needed to make 750.0 mL of 2.00 M solution?

10. What volume (in mL) of 18.0 M H2SO4 is needed to contain 2.45 g H2SO4?

11. What volume (in mL) of 12.0 M HCl is needed to contain 3.00 moles of HCl?

12. How many grams of Ca(OH)2 are needed to make 100.0 mL of 0.250 M solution?

13. What is the molarity of a solution made by dissolving 20.0 g of H3PO4 in 50.0 mL of solution?

14. What weight (in grams) of KCl is there in 2.50 liters of 0.50 M KCl solution?

15. What is the molarity of a solution containing 12.0 g of NaOH in 250.0 mL of solution?

16. Determine the molarity of these solutions:

a) 4.67 moles of Li2SO3 dissolved to make 2.04 liters of solution.

b) 0.629 moles of Al2O3 to make 1.500 liters of solution.

c) 4.783 grams of Na2CO3 to make 10.00 liters of solution.

d) 0.897 grams of (NH4)2CO3 to make 250 mL of solution.

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17. Determine the number of moles of solute to prepare these solutions:

a) 2.35 liters of a 2.00 M Cu(NO3)2 solution.

b) 16.00 mL of a 0.415-molar Pb(NO3)2 solution.

c) 3.00 L of a 0.500 M MgCO3 solution.

d) 6.20 L of a 3.76-molar Na2O solution.

18. Determine the grams of solute to prepare these solutions:

a) 0.289 liters of a 0.00300 M Cu(NO3)2 solution.

b) 16.00 milliliters of a 5.90-molar Pb(NO3)2 solution.

c) 508 mL of a 2.75-molar NaF solution.

d) 6.20 L of a 3.76-molar Na2O solution.

19. Determine the final volume of these solutions:

1. 4.67 moles of Li2SO3 dissolved to make a 3.89 M solution.

b) 4.907 moles of Al2O3 to make a 0.500 M solution.

c) 0.783 grams of Na2CO3 to make a 0.348 M solution.

d) 8.97 grams of (NH4)2CO3 to make a 0.250-molar solution.