Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dilution Worksheet

1. What will be the final concentration of the solution indicated that will result from the following dilutions?

a. 14.0 mL of a 4.20 M Na2CO3 solution is diluted to 86.0 mL.

b. 450. mL of a 1.22 M HCl solution is diluted to 1.26 liters.

c. 25.0 mL of a 0.076 M H2SO4 solution is diluted to 82.0 mL.

d. 1.32 liters of a 6.40 M NaOH solution is diluted to 15.6 liters.

e. 2.60 liters of a 4.07 M KOH solution is diluted to 20643 mL.

2. To what volume should the indicated solution be diluted to produce a solution of the desired concentration? How much water must be added in each case?

a. 12.0 mL of a 0.64 M KCl solution to produce a 0.19 M solution.

b. 84.2 mL of a 4.60 M KMnO4 solution to produce a 1.42 M solution.

c. 7.50 liters of a 1.21 M ZnCl2 solution to produce a 0.064 M solution.

d. 180. mL of a 0.076 M AgNO3 solution to produce a 0.0043 M solution.

e. 3725 mL of a 0.374 M CoCl2 solution to produce a 0.126 M solution.

3. What volume of the indicated solution is needed to produce the volume and concentration of a diluted solution as indicated?

a. 2.73 M NaOH solution to prepare 142 mL of a 0.540 M solution.

b. 0.0076 M SnF2 solution to prepare 25.0 mL of a 0.00027 M solution.

c. 8.43 M Ti(NO3)2 solution to prepare 560. mL of a 4.32 M solution.

d. 0.693 M Al(C2H3O2)3 solution to prepare 5.40 liters of a 0.240 M solution.

e. 18.0 M H2SO4 solution to prepare 6.40 L of a 2.38 M solution.