Solution Dilution — Practice Worksheet

Name: _____ Date: _____

Instructions: Show your reasoning, units, electron counts, or diagrams as needed. Use a separate sheet for additional work. For numeric results, use appropriate significant figures.

1. Calculate the volume of 2 M stock solution needed to prepare 100 mL of 0.5 M final solution. Explain how to make the dilution.

2. Calculate the volume of 6 M stock solution needed to prepare 250 mL of 1.5 M final solution. Explain how to make the dilution.

3. Calculate the volume of 1 M stock solution needed to prepare 500 mL of 0.1 M final solution. Explain how to make the dilution.

4. Calculate the volume of 0.8 M stock solution needed to prepare 200 mL of 0.2 M final solution. Explain how to make the dilution.

5. Calculate the volume of 12 M stock solution needed to prepare 150 mL of 1 M final solution. Explain how to make the dilution.

© IntoChemistry • www.intochemistry.com • Classroom practice

6. Calculate the volume of 3 M stock solution needed to prepare 50 mL of 0.75 M final solution. Explain how to make the dilution.

7. Calculate the volume of 0.5 M stock solution needed to prepare 80 mL of 0.125 M final solution. Explain how to make the dilution.

8. Calculate the volume of 5 M stock solution needed to prepare 1000 mL of 0.25 M final solution. Explain how to make the dilution.

9. Calculate the volume of 2.5 M stock solution needed to prepare 125 mL of 0.5 M final solution. Explain how to make the dilution.

10. Calculate the volume of 0.4 M stock solution needed to prepare 100 mL of 0.05 M final solution. Explain how to make the dilution.

11. Calculate the volume of 1.25 M stock solution needed to prepare 250 mL of 0.25 M final solution. Explain how to make the dilution.

12. Calculate the volume of 9 M stock solution needed to prepare 300 mL of 0.9 M final solution. Explain how to make the dilution.