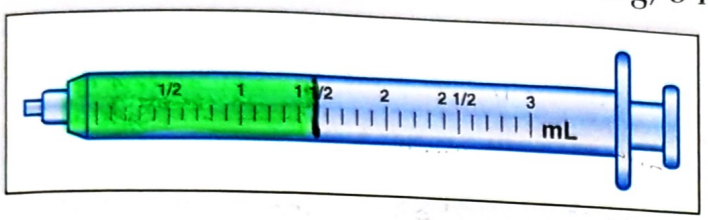
PROFICIENCY TEST 1 **Calculations of Liquid Injections**

Name: Shoshana Zimmerman

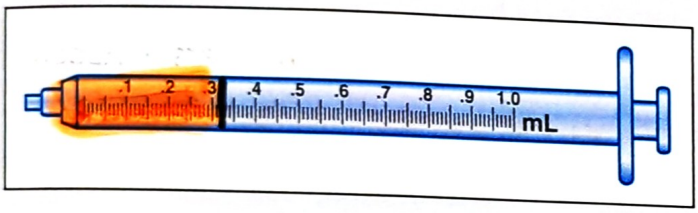
Solve these injection problems. Draw a line on the syringe indicating the amount you would prepare in milliliters. See Appendix A for answers.

1. Order: sodium amytal 0.1 g IM at 7 AM
   Supply: ampule of liquid labeled 200 mg/3 mL



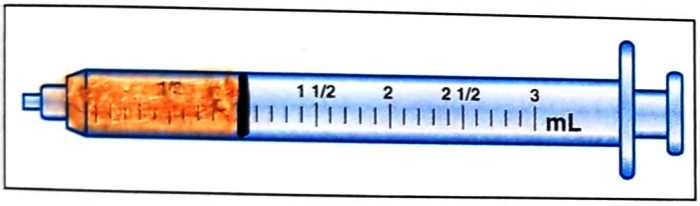
$\frac{3\text{ml}}{200\text{mg}} \times \frac{1000\text{mg}}{1\text{g}} \times \frac{0.1\text{g}}{\text{dose}} = \frac{300}{200} = 1.5$

2. Order: morphine sulfate 5 mg IV stat
   Supply: vial of liquid labeled 15 mg/mL (round to the nearest hundredths)



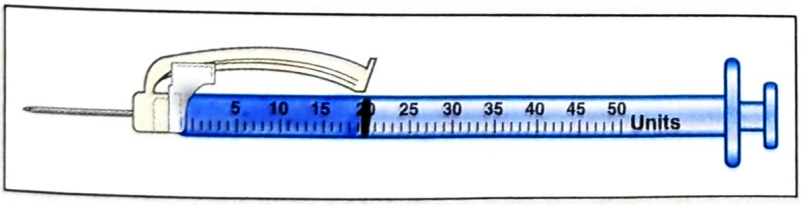
$\frac{\text{ml}}{15\text{mg}} \times \frac{5\text{mg}}{\text{dose}} = 0.33$

3. Order: diphenhydramine (Benadryl) 25 mg IM q4h prn
   Supply: ampule of liquid labeled 50 mg in 2 mL



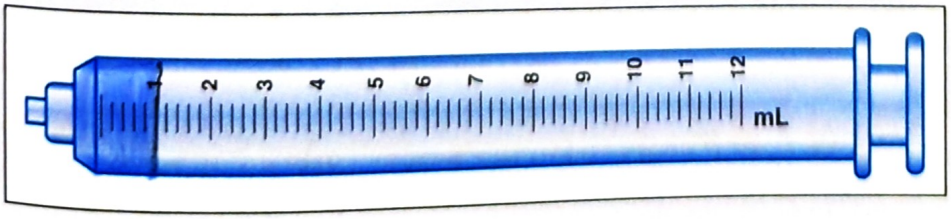
$\frac{2\text{ml}}{50\text{mg}} \times \frac{25\text{mg}}{1\text{M}} = 1$

4. Order: NPH insulin 15 units and Humulin insulin 5 units subcutaneous every day 7 AM
   Supply: vials of NPH insulin 100 units/mL and Humulin insulin 100 units/mL



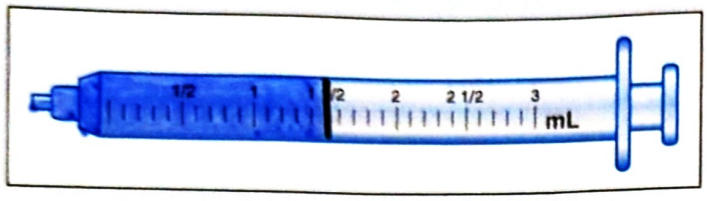
20 units

5. Order: add 20 mEq potassium chloride to IV stat
   Supply: vial of liquid labeled 40 mEq per 20 mL (use a 3-mL syringe, round to the nearest tenths)



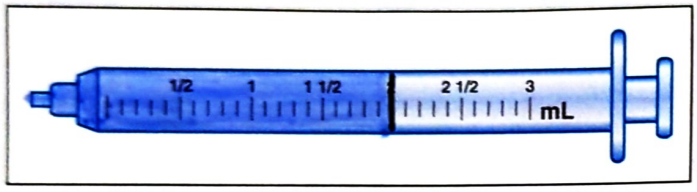
$\frac{20\text{ml}}{40\text{mEq}} \times 20\text{mEq} = 1$

6. Order: scopolamine 0.6 mg subcutaneous stat
Supply: vial labeled 0.4 mg/mL



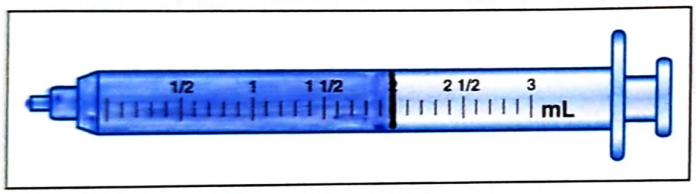
$\frac{\text{ml}}{0.4\text{mg}} \times \frac{0.6\text{mg}}{\text{dose}} = 1.5$

7. Order: atropine sulfate 0.8 mg IV at 7 AM
Supply: vial labeled 0.4 mg/mL



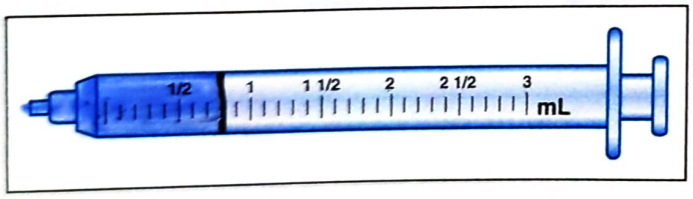
$\frac{\text{ml}}{0.4\text{mg}} \times \frac{0.8\text{mg}}{\text{dose}} = 2$

8. Order: add 0.5 g dextrose 25% to IV stat
Supply: vial of liquid labeled infant 25% dextrose injection 250 mg/mL



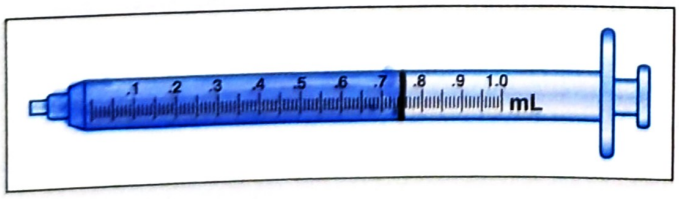
$\frac{\text{ml}}{250\text{mg}} \times \frac{1000\text{mg}}{1\text{g}} \times 0.5\text{g} = \frac{500}{250} = 2$

9. Order: ascorbic acid (vitamin C) 200 mg IM bid
Supply: ampule labeled 500 mg/2 mL



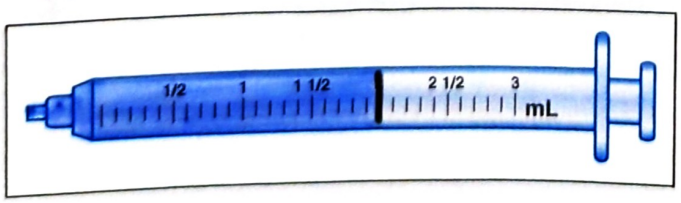
$\frac{2\text{ml}}{500\text{mg}} \times 200\text{mg} = 0.8$

10. Order: epinephrine 7.5 mg subcutaneous stat
Supply: ampule labeled 1:100

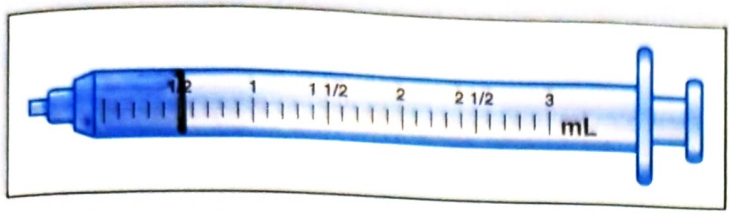


$\frac{100\text{ml}}{1\text{g}} \times \frac{1\text{g}}{1000\text{mg}} \times \frac{7.5\text{mg}}{\text{dose}} = \frac{750}{1000} = 0.75$

11. Order: diazepam (Valium) 10 mg IV now
Supply: vial labeled 5 mg/mL

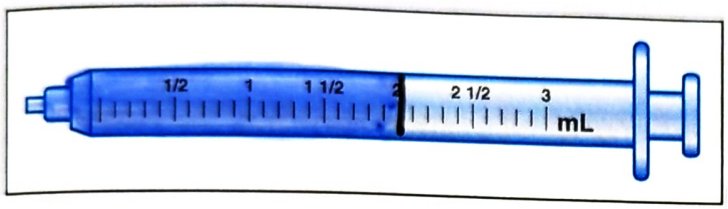


12. Order: chlordiazepoxide (Librium) 25 mg IM bid
Supply: vial labeled 100 mg per 2 mL

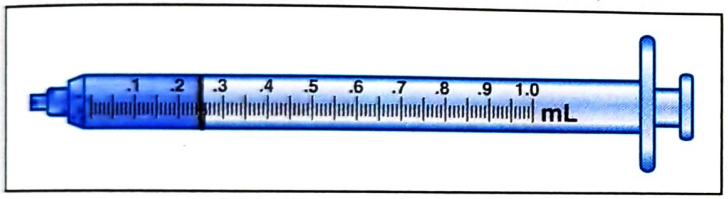


$\frac{2\text{ ml}}{100\text{ mg}} \times \frac{25\text{ mg}}{\text{dose}} = 0.5$

13. Order: hydroxyzine (Vistaril) 50 mg IM bid
Supply: vial labeled 25 mg/mL

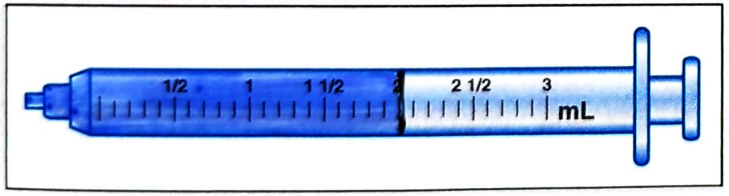


14. Order: lorazepam (Ativan) 0.5 mg IV q4h
Supply: vial labeled 2 mg/mL



$\frac{\text{ml}}{2\text{mg}} \times \frac{0.5\text{ mg}}{\text{dose}} = 0.25$

15. Order: phenytoin (Dilantin) 0.2 g IM stat
Supply: vial labeled 200 mg/2 mL



$\frac{2\text{ ml}}{200\text{ mg}} \times \frac{1000\text{ mg}}{1\text{g}} \times 0.2\text{g} = 2$