## Putting it All Together – Practice Problems #2

### Answers Using Ratio-Proportion

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<th>Conversion Problem</th>
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</table>
| 1. gr 6 = _______ mg | gr 1 = 60 mg : gr 6 = x mg  
 1 x = 360  
  x = 360  
  gr 6 = 360 mg | 1 x = 360  
  x = 360  
  gr 6 = 360 mg | 1 x = 360  
  x = 360  
  gr 6 = 360 mg |
| 2. 3 fl. oz. = _____ mL | 1 fl oz. = 30 mL : 3 fl oz = x mL  
 1 x = 90  
  x = 90  
  3 fl. oz = 90 mL | 1 x = 90  
  x = 90  
  3 fl. oz = 90 mL | 1 x = 90  
  x = 90  
  3 fl. oz = 90 mL |
| 3. 15 mL = _______ L | 1000 mL = 1 L : 15 mL = x L  
 1000 x = 15  
  x = 0.015  
  15 mL = 0.015 L | 1000 x = 15  
  x = 0.015  
  15 mL = 0.015 L | 1000 x = 15  
  x = 0.015  
  15 mL = 0.015 L |
| 4. 3 t = __________ mL | 1 t = 5 mL : 3 t = x mL  
 1 x = 15  
  x = 15  
  3 t = 15 mL | 1 x = 15  
  x = 15  
  3 t = 15 mL | 1 x = 15  
  x = 15  
  3 t = 15 mL |
| 5. 20 mg = _______ mcg | 1 mg = 1000 mcg : 20 mg = x mcg  
 1 x = 20,000  
  x = 20,000  
  20 mg = 20,000 mcg | 1 x = 20,000  
  x = 20,000  
  20 mg = 20,000 mcg | 1 x = 20,000  
  x = 20,000  
  20 mg = 20,000 mcg |
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| 7. Order: Phenobarbital 0.1 g  
Available: Phenobarbital 25 mg tablets  
Give: __________ |
| 25 mg = 1 tab : 100 mg = x tab  
25 x = 100  
x = 4  
**Give 4 tablets** |
| 25 mg \times 100 mg  
1 tab \times x tab  
25 x = 100  
x = 4  
**Give 4 tablets** |
| 25 mg \times 1 tab  
100 mg \times x tab  
25 x = 100  
x = 4  
**Give 4 tablets** |
| 8. Order: Demerol 25 mg  
Available: Demerol 50 mg tablets  
Give: __________ |
| 50 mg = 1 tab : 25 mg = x tab  
50 x = 25  
x = 0.5  
**Give 0.5 tablet** |
| 50 mg \times 25 mg  
1 tab \times x tab  
50 x = 25  
x = 0.5  
**Give 0.5 tablet** |
| 50 mg \times 1 tab  
25 mg \times x tab  
50 x = 25  
x = 0.5  
**Give 0.5 tablet** |
| 9. Order: Meprobamate 200 mg  
Available: Meprobamate 0.4 g per tablet  
Give: __________ |
| 400 mg = 1 tab : 200 mg = x tab  
400 x = 200  
x = 0.5  
**Give 0.5 tablets** |
| 400 mg \times 200 mg  
1 tab \times x tab  
400 x = 200  
x = 0.5  
**Give 0.5 tablets** |
| 400 mg \times 1 tab  
200 mg \times x tab  
400 x = 200  
x = 0.5  
**Give 0.5 tablets** |
| 10. Order: Codeine gr 1½  
Available: Codeine gr 1 tablets  
Give: __________ |
| gr 1 = 1 tab : gr 1.5 = x tab  
1 x = 1.5  
x = 1.5  
**Give 1.5 tablets** |
| gr1 \times gr1.5  
1 tab \times x tab  
1 x = 1.5  
x = 1.5  
**Give 1.5 tablets** |
| gr1 \times 1 tab  
gr1.5 \times x tab  
1 x = 1.5  
x = 1.5  
**Give 1.5 tablets** |
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| 11. Order: Prednisone 25 mg | 10 mg = 1 tab : 25 mg = \( x \) tab \[
10 \times x = 25 \\
\text{ } x = 2.5 \] | \[
\frac{10 \text{ mg}}{1 \text{ tab}} \times \frac{x \text{ tab}}{25 \text{ mg}} = 1 \] | \[
\frac{10 \text{ mg}}{1 \text{ tab}} \times \frac{x \text{ tab}}{25 \text{ mg}} = 1 \] |
| Give: | \text{Give 2.5 tablets} | \text{Give 2.5 tablets} | \text{Give 2.5 tablets} |
| 12. Order: Penicillin G 300,000 Units | 200,000 u : 300,000 u = \( x \) mL \[
200,000 \times x = 1,500,000 \\
\text{ } x = 7.5 \] | \[
\frac{200,000 \text{ u}}{5 \text{ mL}} \times \frac{300,000 \text{ u}}{x \text{ mL}} = 1 \] | \[
\frac{200,000 \text{ u}}{5 \text{ mL}} \times \frac{300,000 \text{ u}}{x \text{ mL}} = 1 \] |
| Available: Penicillin G suspension 200,000 Units per 5 mL | Give: | \text{Give 7.5 mL} | \text{Give 7.5 mL} |
| 13. Order: Atropine gr 1/300 | gr 0.0066 = 1 mL: gr 0.0033 = \( x \) mL \[
0.0066 \times x = 0.0033 \\
\text{ } x = 0.5 \] | \[
\frac{gr 0.0066}{1 \text{ mL}} \times \frac{gr 0.0033}{x \text{ mL}} = 1 \] | \[
\frac{gr 0.0066}{1 \text{ mL}} \times \frac{gr 0.0033}{x \text{ mL}} = 1 \] |
| Available: Atropine gr 1/150 per mL | Give: | \text{Give 0.5 mL} | \text{Give 0.5 mL} |
| 14. Order: Chlorpromazine 0.075 g | 50 mg : 2 mL : 75 mg = \( x \) mL \[
50 \times x = 150 \\
\text{ } x = 3 \] | \[
\frac{50 \text{ mg}}{2 \text{ mL}} \times \frac{75 \text{ mg}}{x \text{ mL}} = 1 \] | \[
\frac{50 \text{ mg}}{2 \text{ mL}} \times \frac{75 \text{ mg}}{x \text{ mL}} = 1 \] |
| Available: Chlorpromazine 50 mg/2mL | Give: | \text{Give 3 mL} | \text{Give 3 mL} |
| 15. Order: Lanoxin 0.25 mg | 0.05 mg : 2 mL : 0.25 mg = \( x \) mL \[
0.05 \times x = 0.25 \\
\text{ } x = 10 \] | \[
\frac{0.05 \text{ mg}}{2 \text{ mL}} \times \frac{0.25 \text{ mg}}{x \text{ mL}} = 1 \] | \[
\frac{0.05 \text{ mg}}{2 \text{ mL}} \times \frac{0.25 \text{ mg}}{x \text{ mL}} = 1 \] |
| Available: Lanoxin elixir 0.05 mg per 2 mL | Give: | \text{Give 10 mL} | \text{Give 10 mL} |
| 16. Order: Vistaril 50 mg caplets | 25 mg : 1 cap : 50 mg = \( x \) cap \[
25 \times x = 50 \\
\text{ } x = 2 \] | \[
\frac{25 \text{ mg}}{1 \text{ cap}} \times \frac{50 \text{ mg}}{x \text{ cap}} = 1 \] | \[
\frac{25 \text{ mg}}{1 \text{ cap}} \times \frac{50 \text{ mg}}{x \text{ cap}} = 1 \] |
<p>| Available: Vistaril 25 mg caplets | Give: | \text{Give 2 caplets} | \text{Give 2 caplets} |</p>
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| 17. Order: KCL 15 mEq  
Available: KCL 5 mEq/5 mL  
Give: __________ | $5 \text{ mEq} : 5 \text{ mL} = 15 \text{ mEq} : x \text{ mL}$  
$5 \cdot x = 75$  
$x = 15$  
Give 15 mL | $5 \text{ mEq} \times 15 \text{ mEq}$  
$5 \text{ mL} \times x \text{ mL}$  
$5 \cdot x = 75$  
$x = 15$  
Give 15 mL | $5 \text{ mEq} \times \frac{5 \text{ mL}}{15 \text{ mEq}}$  
$5 \cdot x = 75$  
$x = 15$  
Give 15 mL |
| 18. Order: Atropine Sulfate gr 1/200  
Available: Atropine Sulfate 0.3 mg/mL  
Give: __________ | $0.3 \text{ mg} : 1 \text{ mL} = 0.3 \text{ mg} : x \text{ mL}$  
$0.3 \cdot x = 0.3$  
$x = 1$  
Give 1 mL | $0.3 \text{ mg} \times 0.3 \text{ mg}$  
$1 \text{ mL} \times x \text{ mL}$  
$0.3 \cdot x = 0.3$  
$x = 1$  
Give 1 mL | $0.3 \text{ mg} \times \frac{1 \text{ mL}}{0.3 \text{ mg}}$  
$0.3 \cdot x = 0.3$  
$x = 1$  
Give 1 mL |
| 19. Order: Sufentanil 80 mcg  
Available: Sufentanil 100 mcg/2mL  
Give: __________ | $100 \text{ mcg} : 2 \text{ mL} = 80 \text{ mcg} : x \text{ mL}$  
$100 \cdot x = 160$  
$x = 1.6$  
Give 1.6 mL | $100 \text{ mcg} \times 80 \text{ mcg}$  
$2 \text{ mL} \times x \text{ mL}$  
$100 \cdot x = 160$  
$x = 1.6$  
Give 1.6 mL | $100 \text{ mcg} \times \frac{2 \text{ mL}}{80 \text{ mcg}}$  
$100 \cdot x = 160$  
$x = 1.6$  
Give 1.6 mL |
| 20. Order: Aspirin 600 mg  
Available: Aspirin gr 5 caplets  
Give: __________ | $300 \text{ mg} : 1 \text{ cap} = 600 \text{ mg} : x \text{ cap}$  
$300 \cdot x = 600$  
$x = 2$  
Give 2 caplets | $300 \text{ mg} \times 600 \text{ mg}$  
$1 \text{ cap} \times x \text{ cap}$  
$300 \cdot x = 600$  
$x = 2$  
Give 2 caplets | $300 \text{ mg} \times \frac{1 \text{ cap}}{600 \text{ mg}}$  
$300 \cdot x = 600$  
$x = 2$  
Give 2 caplets |
Available: Heparin 1000 Units/mL  
Give: __________ | $1000 \text{ u} : 1 \text{ mL} = 2000 \text{ u} : x \text{ mL}$  
$1000 \cdot x = 2000$  
$x = 2$  
Give 2 mL | $1000 \text{ u} \times 2000 \text{ u}$  
$1 \text{ mL} \times x \text{ mL}$  
$1000 \cdot x = 2000$  
$x = 2$  
Give 2 mL | $1000 \text{ u} \times \frac{1 \text{ mL}}{2000 \text{ u}}$  
$1000 \cdot x = 2000$  
$x = 2$  
Give 2 mL |
| 22. Order: Pen VK 300,000 Units  
Available: Pen VK 250,000 Units/mL  
Give: __________ | $250,000 \text{ u} : 1 \text{ mL} = 300,000 \text{ u} : x \text{ mL}$  
$250,000 \cdot x = 300,000$  
$x = 1.2$  
Give 1.2 mL | $250,000 \text{ u} \times 300,000 \text{ u}$  
$1 \text{ mL} \times x \text{ mL}$  
$250,000 \cdot x = 300,000$  
$x = 1.2$  
Give 1.2 mL | $250,000 \text{ u} \times \frac{2 \text{ mL}}{300,000 \text{ u}}$  
$250,000 \cdot x = 300,000$  
$x = 1.2$  
Give 1.2 mL |
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| **23.** Order: Ampicillin 125 mg  
Available: Ampicillin 175 mg/mL  
Give: ____________ | 175 mg = 1 mL : 125 mg = x mL  
\[ \frac{175}{125} = \frac{x}{1 mL} \]  
\[ x \approx 0.71 \]  
**Give 0.7 mL.** | \[ \frac{175}{125} \times \frac{1 mL}{x mL} \]  
\[ 175 \times x = 125 \]  
\[ x = 0.71 \]  
**Give 0.7 mL.** | \[ \frac{175}{125} \times \frac{1 mL}{x mL} \]  
\[ 175 \times x = 125 \]  
\[ x = 0.71 \]  
**Give 0.7 mL.** |
| **24.** Order: cefazolin sodium 0.35 g  
Available: 1 g vial of sterile cefazolin  
Directions: Add 2.5 mL sterile water for injection and shake. Provides a volume of 3 mL (330 mg/mL)  
Give: ____________ | 330 mg = 1 mL : 350 mg = x mL  
\[ \frac{330}{350} = \frac{x}{1 mL} \]  
\[ x \approx 1.06 \]  
**Give 1.1 mL.** | \[ \frac{330}{350} \times \frac{1 mL}{x mL} \]  
\[ 330 \times x = 350 \]  
\[ x = 1.06 \]  
**Give 1.1 mL.** | \[ \frac{330}{350} \times \frac{1 mL}{x mL} \]  
\[ 330 \times x = 350 \]  
\[ x = 1.06 \]  
**Give 1.1 mL.** |
| **25.** Order: Cefoxitin sodium 0.75 g  
Available: Vial with 5 g of cefoxitin sodium  
Directions: Add 13.2 mL sterile water to the vial. Yields a solution of 1g/3mL  
Give: ____________ | 1 g = 3 mL : 0.75 g = x mL  
\[ \frac{1}{0.75} = \frac{x}{3 mL} \]  
\[ x = 2.25 \]  
**Give 2.3 mL.** | \[ \frac{1}{0.75} \times \frac{3 mL}{x mL} \]  
\[ 1 \times x = 2.25 \]  
\[ x = 2.25 \]  
**Give 2.3 mL.** | \[ \frac{1}{0.75} \times \frac{3 mL}{x mL} \]  
\[ 1 \times x = 2.25 \]  
\[ x = 2.25 \]  
**Give 2.3 mL.** |