

Chapter 4: Proficiency Test 1

$$1.) \frac{20 \text{ mg}}{x} \times \frac{30 \text{ mg}}{15} \quad 30x = 300$$

$$\boxed{x = 10 \text{ mL}}$$

$$2.) \frac{150 \text{ mg}}{x} \times \frac{75 \text{ mg}}{7.5} \quad 75x = 1,125$$

$$\boxed{x = 15 \text{ mL}}$$

$$3.) \frac{0.125 \text{ mg}}{x} \times \frac{0.25 \text{ mg}}{10} \quad 0.25x = 1.25$$

$$\boxed{x = 5 \text{ mL}}$$

$$4.) \frac{375 \text{ mg}}{x} \times \frac{125 \text{ mg}}{5 \text{ mL}} \quad 125x = 1,875$$

$$\boxed{x = 15 \text{ mL}}$$

$$5.) \frac{40 \text{ mg}}{x} \times \frac{20 \text{ mg}}{2.5 \text{ mL}} \quad 20x = 100$$

$$\boxed{x = 5 \text{ mL}}$$

$$6.) \frac{0.5 \text{ mg}}{x} \times \frac{0.25 \text{ mg}}{1} \quad 0.25x = 0.5$$

$$\boxed{x = 2 \text{ tablets}}$$

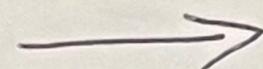
$$7.) \frac{100 \text{ mcg}}{x} = \frac{100 \text{ mcg}}{1} \quad \boxed{x = 1 \text{ capsule}}$$

$$0.1 \text{ mg} = 100 \text{ mcg}$$

$$8.) \frac{250 \text{ mg}}{x} \times \frac{100 \text{ mg}}{1 \text{ tab}} \quad 100x = 250$$

$$\boxed{x = 2.5 \text{ tablets}}$$

Ques. 9 & 10



Chapter 4: Proficiency Test 1

9.) $0.5g = 500mg$

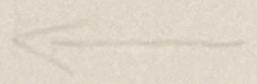
$$\frac{500 \text{ mg}}{x} \neq \frac{250 \text{ mg}}{1}$$

$$250x = 500$$
$$x = 2 \text{ capsules}$$

10.) $300 \text{ mcg} = 0.3 \text{ mg}$

$$\frac{0.3 \text{ mg}}{x} \neq \frac{0.3 \text{ mg}}{1}$$

$$x = 1 \text{ tablet}$$



Chapter 5: Proficiency Test 2

1.) $\frac{10 \text{ mg}}{x} \neq \frac{15 \text{ mg}}{1 \text{ mL}}$ $15x = 10$
 $x \approx 0.7 \text{ mL}$

2.) $0.1 \text{ g} = 100 \text{ mg}$ $200x = 300$
 $\frac{100 \text{ mg}}{x} \neq \frac{200 \text{ mg}}{3 \text{ mL}}$ $x = 1.5 \text{ mL}$

3.) $\frac{1000 \text{ mcg}}{x} \neq \frac{5000 \text{ mcg}}{1 \text{ mL}}$ $5000x = 1000$
 $x = 0.2 \text{ mL}$

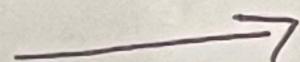
4.) $1\% = 1000 \text{ mg in } 100 \text{ mL}$
 $\frac{25 \text{ mg}}{x} \neq \frac{1000 \text{ mg}}{100 \text{ mL}}$ $1000x = 2500$
 $x = 2.5 \text{ mL}$

5.) $\frac{0.5 \text{ mg}}{x} \neq \frac{0.4 \text{ mg}}{1 \text{ mL}}$ $0.4x = 0.5$
 $x \approx 1.3 \text{ mL}$

6.) NPH insulin = 10 units
 Humulin insulin = 3 units \rightarrow 13 units

7.) $\frac{1.2 \text{ mEq}}{x} \neq \frac{0.5 \text{ mEq}}{1 \text{ mL}}$ $0.5x = 1.2$
 $x = 2.4 \text{ mL}$

Ques. 8-10



Chapter 5: Proficiency Test 2

8.) $1:1000 = 1000\text{mg in } 1000\text{ mL}$

$500\text{ mcg} = 0.5\text{ mg}$

$$\frac{0.5\text{ mg}}{x} \times \frac{1000\text{ mg}}{1000\text{ mL}}$$

$$1000x = 500$$

$$x = 0.5\text{ mL}$$

9.) a) 2 mL of sterile water, sodium chloride, 1% Lidocaine Hydrochloride

b) 1g / 2.6 mL

$$c.) \frac{1\text{g}}{x} \times \frac{1\text{g}}{2.6\text{ mL}} \quad x = 2.6\text{ mL}$$

d.) 2.6 mL

e.) Empty / Nothing in vial

f.) Discard vial in proper bin

10.) a.) 1.8 mL sterile water or Bacterostatic water

b.) 250 mg/mL

$$c.) \frac{300\text{ mg}}{x} \times \frac{250\text{ mg}}{1\text{ mL}}$$

$$250x = 300$$

$$x = 1.2\text{ mL}$$

d.) 1.2 mL

e.) Discard / must be used within one hour after reconstitution.

f.) None / Discard in proper bin

Chapter 6: Proficiency Test 1

Alfonso Crane

1.) a) $\frac{1000 \text{ mL}}{x} \times \frac{150 \text{ mL}}{1 \text{ hr}}$ $150x = 1000$
 $x = 6.7 \sim \boxed{7 \text{ hrs}}$

b.) macrodrip $\rightarrow \left(\frac{150 \text{ mL}}{60 \text{ min}}\right) \times 10 \text{ gtt/mL} = \boxed{25 \text{ gtt/min}}$

microdrip $\rightarrow \left(\frac{150 \text{ mL}}{60 \text{ min}}\right) \times 60 \text{ gtt/mL} = \boxed{150 \text{ gtt/min}}$

c.) macrodrip

2.) a.) macrodrip $\rightarrow \left(\frac{100 \text{ mL}}{360 \text{ min}}\right) \times 10 \text{ gtt/mL} = 2.7 \text{ or } \boxed{3 \text{ gtt/min}}$

microdrip $\rightarrow \left(\frac{100 \text{ mL}}{360 \text{ min}}\right) \times 60 \text{ gtt/mL} = 16.7 \text{ or } \boxed{17 \text{ gtt/min}}$

b.) microdrip

3.) a.) Allow 100 mL to run off.

b.) macrodrip $\rightarrow \left(\frac{150 \text{ mL}}{180 \text{ min}}\right) \times 15 \text{ gtt/mL} = 12.5 \text{ or } \boxed{13 \text{ gtt/min}}$

microdrip $\rightarrow \left(\frac{150 \text{ mL}}{180 \text{ min}}\right) \times 60 \text{ gtt/mL} = \boxed{50 \text{ gtt/min}}$

c.) microdrip

4.) $\frac{500 \text{ mL}}{24 \text{ hr}} = 20.8 \text{ or } \boxed{21 \text{ mL/hr}}$

Ques 5 - 10

\rightarrow

Chapter 6: Proficiency Test 1

5.) a.) Reconstitute 100mg powder to 250mL/D5W; give IVPB over 1 hour.

b.) $\left(\frac{250\text{mL}}{60\text{min}}\right) \times 10\text{gtt/mL} = 41.7$ or $\boxed{42\text{gtt/mL}}$

6.) a.) 500mg is the order

b.) $\frac{250\text{mL}}{8\text{hours}} = 31.3$ or $\boxed{31\text{mL/hour}}$ \rightarrow $\boxed{31\text{gtt/min}}$

7.) $125 \times 20 = 2500\text{mL}$
 $75 \times 4 = 300\text{mL}$ \rightarrow $\boxed{2800\text{mL}}$

8.) a.) 90 mL/hr

b.) $\frac{1000\text{mL}}{90\text{mL/hr}} = 11.1$ or $\boxed{11\text{hrs}}$

9.) 0.5g = 500mg in 500mL

$\frac{50\text{mL}}{x} \times \frac{500\text{mL}}{500\text{mg}} = 500x = 25000$
 $\boxed{x = 50\text{mg/hr}}$

10.) a.) 75mL D5W. Take 100mL D5W, remove 25mL. Add 5mL Bactrim to the 75mL D5W. Time is 60 minutes. label IVPB.

b.) $\left(\frac{75 \times 60}{90\text{min}}\right) = 50\text{mL/hr.}$

secondary volume = 75 mL

secondary rate = 50mL/hr

Chapter 6: Proficiency Test 1

Alfonso Crave

11.) $150 \text{ mL} \times 0.75$ ^(3/4 strength)
 $= 112.5$

$150 \text{ mL} - 112.5 = \boxed{37.5 \text{ mL water}}$

12.) $500 \text{ mL} \times 0.5$ ^(1/2)
 $= 250 \text{ mL}$

$500 - 250 = \boxed{250 \text{ mL water}}$

13.) $25\% = 0.25$
 400×0.25
 $= 100$

$400 - 100 = \boxed{300 \text{ mL water}}$

14.) Full strength Isocal
T volume = 500 mL

$\boxed{0 \text{ mL of water}}$

1.) a) $20 \text{ mg} \times 1.96 \text{ m}^2 = 39 \text{ mg}$ - dose is correct

b.) 250 mL over $\frac{1}{2}$ hr (30min)

2.) a) $130 \text{ mg} \times 1.77 \text{ m}^2 = 230 \text{ mg}$ - dose is correct

b.) Two 100-mg tabs & three 10-mg tabs

DOSAGE CALCULATION,
PREPARATION &
ADMINISTRATION

Subtotal