Alfonso
Crane

Chapter 4: Proficiency Test 1

1.) $\frac{20\ mEq}{X} \times \frac{30\ mEq}{15}$ $30x = 300$

$\boxed{X = 10\ mL}$

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

$\boxed{X = 15\ mL}$

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

$\boxed{X = 5\ mL}$

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

$\boxed{X = 15\ mL}$

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

$\boxed{X = 5\ mL}$

6.) $\frac{0.5\ mg}{X} \times \frac{0.25\ mg}{1}$ $0.25X = 0.5$

$\boxed{X = 2\ tablets}$

7.) $\frac{100\ mcg}{X} = \frac{100\ mcg}{1}$ $\boxed{X = 1\ capsule}$

$0.1\ mg = 100\ mcg$

8.) $\frac{250\ mg}{X} \times \frac{100\ mg}{1\ tab}$ $100X = 250$

$\boxed{X = 2.5\ tablets}$

Ques. 9 & 10

→

Chapter 4: Proficiency Test 1

9.) $0.5g = 500mg$

$$\frac{500\ mg}{x} \times \frac{250\ mg}{1}$$

$250x = 500$

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

10.) $300\ mcg = 0.3\ mg$

$$\frac{0.3\ mg}{x} \times \frac{0.3\ mg}{1}$$

$\boxed{X = 1 \text{ tablet}}$

Alfonso Crane

Chapter 5 : Proficiency Test 2

1.) $\frac{10\,mg}{x} \not\parallel \frac{15\,mg}{1\,mL}$ $\quad 15x = 10$

$\boxed{x \approx 0.7\,mL}$

2.) $0.1\,g = 100\,mg$ $\quad 200x = 300$

$\frac{100\,mg}{x} \not\parallel \frac{200\,mg}{3\,mL}$ $\quad \boxed{x = 1.5\,mL}$

3.) $\frac{1000\,mcg}{X} \not\parallel \frac{5000\,mcg}{1\,mL}$ $\quad 5000x = 1000$

$\boxed{x = 0.2\,mL}$

4.) $1\% = 1000\,mg$ in $100\,mL$

$\frac{25\,mg}{x} \not\parallel \frac{1000\,mg}{100\,mL}$ $\quad 1000x = 2500$

$\boxed{x = 2.5\,mL}$

5.) $\frac{0.5\,mg}{x} \not\parallel \frac{0.4\,mg}{1\,mL}$ $\quad 0.4x = 0.5$

$\boxed{x \approx 1.3\,mL}$

6.) NPH insulin = 10 units
Humulin insulin = 3units $>$ $\boxed{13\ units}$

7.) $\frac{1.2\,mEq}{X} \not\parallel \frac{0.5\,mEq}{1\,mL}$ $\quad 0.5x = 1.2$

$\boxed{x = 2.4\,mL}$

Ques. 8-10 →

Chapter 5: Proficiency Test 2

8.) 1:1000 = 1000mg in 1000 mL

500 mcg = 0.5 mg

$\frac{0.5\text{ mg}}{X} \times \frac{1000\text{mg}}{1000\text{mL}}$ $1000X = 500$

$\boxed{X = 0.5\text{mL}}$

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

b.) 1g / 2.6mL

c.) $\frac{1g}{X} \times \frac{1g}{2.6\text{mL}}$ $\boxed{X = 2.6\text{mL}}$

d.) 2.6 mL

e.) Empty / Nothing in vial

F.) Discard vial in proper bin

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

b.) 250 mg/mL

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

$\boxed{X = 1.2\text{ mL}}$

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.) $\frac{1000\,mL}{x} \not= \frac{150\,mL}{1\,hr}$ $\quad 150x = 1000$ $\quad x = 6.7 \sim$ **7 hrs**

b.) macrodrip → $\left(\frac{150\,mL}{60\,min}\right) \times 10\,gtt/mL =$ **25 gtt/min**

microdrip → $\left(\frac{150\,mL}{60\,min}\right) \times 60\,gtt/mL =$ **150 gtt/min**

c.) macrodrip

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

microdrip → $\left(\frac{100\,mL}{360\,min}\right) \times 60\,gtt/mL = 16.7$ or **17 gtt/min**

b.) microdrip

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

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

microdrip → $\left(\frac{150\,mL}{180\,min}\right) \times 60\,gtt/mL =$ **50 gtt/min**

c.) microdrip

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

Ques 5 - 10
→

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 **42 gtt/mL**

6.) a.) 500 mg is the order

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

7.) $125 \times 20 = 2500\text{mL}$ → **2800 mL**

$75 \times 4 = 300\text{mL}$

8.) a.) 90 mL/hr

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

9.) 0.5g = 500mg in 500mL

$\frac{50\text{mL}}{x} \not\propto \frac{500\text{mL}}{500\text{mg}}$ $\quad 500x = 25000$

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

seconday volume = 75 mL

seoondary rate = 50mL/hr

Chapter 6: Proficiency Test 1

Alfonso Crave

11.) 150mL × 0.75 (3/4 strength)

= 112.5

150 mL − 112.5 = **37.5 mL water**

12.) 500mL × 0.5 (1/2)

= 250mL

500 − 250 = **250 mL water**

13.) 25% = 0.25

400 × 0.25

= 100

400 − 100 = **300 mL water**

14.) Full strength Isocal

T volume = 500mL

0 mL of water

Alfonso Crane

Chapter 7 : Self-Test 4 # 1-2

1.) a.) 20 mg x 1.96 m^2 = 39 mg — dose is correct

b.) 250 mL over 1/2 hr (30 min)

2.) a.) 130 mg x 1.77 m^2 = 230 mg — dose is correct

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