

CH 4

Proficiency Test 1

$$1. \quad X \text{ mL} = \frac{15 \text{ mL}}{30 \text{ mg/g}} \cdot 20 \text{ mg/g} = \frac{300}{30} = 10 \text{ mL}$$

$$2. \quad X \text{ mL} = \frac{7.5 \text{ mL}}{75 \text{ mg/g}} \cdot 150 \text{ mg/g} = \frac{1125}{75} = 15 \text{ mL}$$

$$3. \quad X \text{ mL} = \frac{10 \text{ mL}}{0.25 \text{ mg/g}} \cdot 0.125 \text{ mg/g} = \frac{1.25}{0.25} = 5 \text{ mL}$$

$$4. \quad X \text{ mL} = \frac{5 \text{ mL}}{125 \text{ mg/g}} \cdot 375 \text{ mg/g} = \frac{1875}{125} = 15 \text{ mL}$$

$$5. \quad X \text{ mL} = \frac{2.5 \text{ mL}}{20 \text{ mg/g}} \cdot 40 \text{ mg/g} = \frac{100}{20} = 5 \text{ mL}$$

$$6. \quad X \text{ Tab} = \frac{1 \text{ Tab}}{0.25 \text{ mg/g}} \cdot 0.5 \text{ mg/g} = \frac{0.5}{0.25} = 2 \text{ Tab}$$

$$7. \quad X \text{ Capsules} = \frac{1 \text{ capsule}}{0.1 \text{ mg/g}} \cdot 100 \text{ mg/g} \cdot \frac{1 \text{ mg}}{1000 \text{ mg/g}} = \frac{100}{100} = 1 \text{ capsule}$$

$$8. \quad X \text{ tab} = \frac{1 \text{ tab}}{100 \text{ mg/g}} \cdot 250 \text{ mg/g} = \frac{250}{100} = 2.5 \text{ Tab}$$

$$9. X \text{ capsules} = \frac{1 \text{ capsule}}{250 \text{ mg}} \cdot 0.5 \text{ g} \cdot \frac{1000 \text{ mg}}{1 \text{ g}} = \frac{500}{250} = 2 \text{ capsule}$$

$$10. X \text{ tab} = \frac{1 \text{ tab}}{300 \text{ mcg}} \cdot 0.3 \text{ mg} \cdot \frac{1000 \text{ mcg}}{1 \text{ mg}} = \frac{300}{300} = 1 \text{ Tab}$$

CH 5

Proficiency Test 2

$$1. \quad X \text{ mL} = \frac{1 \text{ mL}}{15 \text{ mg}} \cdot 10 \text{ mg} = \frac{10}{15} = 0.7$$

$$2. \quad X \text{ mL} = \frac{3 \text{ mL}}{200 \text{ mg}} \cdot 0.1 \text{ g} \cdot \frac{1000 \text{ mg}}{1 \text{ g}} = \frac{300}{200} = 1.5 \text{ mL}$$

$$3. \quad X \text{ mL} = \frac{\text{mL}}{5000 \text{ mg}} \cdot 1000 \text{ mg} = \frac{1000}{5000} = 0.2 \text{ mL}$$

$$4. \quad X \text{ mL} = \frac{100 \text{ mL}}{1 \text{ g}} \cdot 25 \text{ mg} \cdot \frac{1 \text{ g}}{1000 \text{ mg}} = \frac{2500}{1000} = 2.5 \text{ mL}$$

$$5. \quad X \text{ mL} = \frac{\text{mL}}{0.4 \text{ mg}} \cdot 0.5 \text{ mg} = 1.25 \quad 1.3 \text{ mL}$$

$$6. \quad X \text{ mL} = \frac{\text{mL}}{100 \text{ units}} \cdot 10 \text{ units} = 0.1 \text{ units NPH}$$

$$X \text{ mL} = \frac{\text{mL}}{100 \text{ units}} \cdot 3 \text{ units} = 0.03 \text{ units Humulin}$$

13 units

$$7. \text{X mL} = \frac{\text{mL}}{0.5 \text{ mg}} \cdot 1.2 \text{ mg} = \frac{1.2}{0.5} = 2.4 \text{ mL}$$

$$8. \text{X mL} = \frac{1000 \text{ mL}}{1 \text{ g}} \cdot 500 \text{ mg} \cdot \frac{1 \text{ g}}{1000 \text{ mg}} \cdot \frac{1 \text{ mg}}{1000 \text{ mg}} = \frac{500 \cdot 0.001}{1,000} = 0.5 \text{ mL}$$

9. A. 2 mL of Sterile water

B. 2.6 mL

$$C. \frac{2.6 \text{ mL}}{1 \text{ g}} \cdot 1 \text{ g} = 2.6 \text{ mL}$$

D. 2.6 mL

E. It's empty

F. discard the vial

10. A. 8 mL

B. 250 mg/mL

$$C. \text{X mL} = \frac{1 \text{ mL}}{250 \text{ mg}} \cdot 300 \text{ mg} = \frac{300}{250} = 1.2 \text{ mL}$$

D. 1.2 mL

E. 0.8 mL left

F. must be used

Ch 6 Proficiency Test 1

1. A. $X \text{ hr} = \frac{\text{hr}}{150 \text{ mL}} \cdot 1000 \text{ mL} = \frac{1000}{150} = 6.6$

B. $\frac{10 \text{ gtt}}{1 \text{ mL}} \cdot \frac{150 \text{ mL}}{1 \text{ hr}} \cdot \frac{1 \text{ hr}}{60 \text{ min}} = \frac{1500}{60} = 25 \text{ gtt/min}$
macro tubing

$\frac{100 \text{ gtt}}{1 \text{ mL}} \cdot \frac{150 \text{ mL}}{1 \text{ hr}} \cdot \frac{1 \text{ hr}}{60 \text{ min}} = \frac{9000}{60} = 150 \text{ gtt/min}$
micro tubing

C. 25 gtt/min

2. 100 mL / 360 min

A. $\frac{10 \text{ gtt}}{\text{mL}} \cdot \frac{100 \text{ mL}}{360 \text{ min}} = \frac{1000}{360} = 2.7$ or 3 gtt/min
macro tubing

$\frac{100 \text{ gtt}}{\text{mL}} \cdot \frac{100 \text{ mL}}{360 \text{ min}} = \frac{10000}{360} = 16.6$
17 gtt/min
micro tubing

B. micro tubing

3. A. Allow 100 mL of NS to run out of the IV before hooking up to patient

B. $X \text{ gtt/min} = \frac{15 \text{ gtt}}{\text{mL}} \cdot \frac{150 \text{ mL}}{180 \text{ min}} = \frac{2250}{180} = 12.5$ or 13 gtt/min
macro

$X \text{ gtt/min} = \frac{100 \text{ gtt}}{\text{mL}} \cdot \frac{150 \text{ mL}}{180 \text{ min}} = \frac{9000}{180} = 50 \text{ gtt/min}$
micro

C. Microdrip

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

5. A. Add 100 mg powder to 250 mL D5W

B. $\frac{10 \text{ gtt}}{1 \text{ mL}} \cdot \frac{250 \text{ mL}}{60 \text{ min}} = \frac{2500}{60} = 41.6$ or 42 gtt/min

6. A. $X \text{ mL} = \frac{10 \text{ mL}}{1 \text{ g}} \cdot 500 \text{ mg} \cdot \frac{1 \text{ g}}{1000 \text{ mg}} = \frac{5000}{1000} = 5 \text{ mL}$

5 mL of aminophylline

B. $\frac{250 \text{ mL}}{8 \text{ hr}} = 31.2$ or 31 mL/hr (Microdrip = 31 gtt/min)

7. $125 \times 20 = 2500 \text{ mL}$

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

$2500 + 300 = 2800 \text{ mL}$

8. A. 90 mL/hr

B. $1000 / 90 = 11 \text{ hrs}$

9. 50 mg aminophylline per hour

10. A. 75 mL D5W, 60 - 90 mins

B. 75 mL/hr

11. $3/4 = 0.75 \text{ mL}$

$0.75 \cdot 150 = 112.5 \text{ mL Isocal}$

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

12. $1/2 = 0.5$

$0.5 \cdot 500 = 250 \text{ mL Vivonex}$

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

13. $0.25 \cdot 400 = 100 \text{ mL Osmolite}$

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

14. 500 mL Isocal with no water

Ch 7 self-test # 4 1-2

1. $\frac{6\cancel{\text{ft}} \cdot 12\text{in}}{1\cancel{\text{ft}}} = 72\text{in}$ $72 \cdot 2.54 = 182.88\text{cm}$

$165 / 2.2 = 75\text{Kg}$

$\sqrt{75 \cdot 182.88 / 3600} = \sqrt{3.81} = 1.9 \text{ or } 2\text{m}^2$

A. yes

B. $\frac{250\text{mL}}{1/2 \text{ hr}}$

2. A. yes $130\text{mg/m}^2 \cdot 1.77 = 230\text{mg}$

B. TWO 100 mg tabs

Three 10 mg tabs.