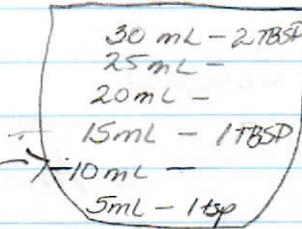


Chpt 4: Proficiency Test

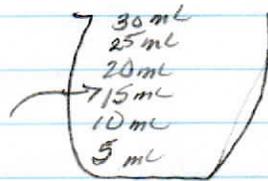
1. $\frac{20 \text{ mg}}{30 \text{ mg}} \times 15 \text{ mL}$

$= 0.66\bar{6} \times 15 \text{ mL} = 10 \text{ mL}$



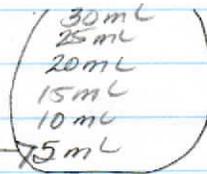
2. $\frac{150 \text{ mg}}{75 \text{ mg}} \times 7.5 \text{ mL}$

$2 \times 7.5 \text{ mL} = 15 \text{ mL}$



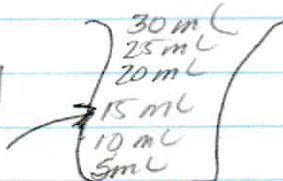
3. $\frac{0.125 \text{ mg}}{0.25 \text{ mg}} \times 10 \text{ mL}$

$0.5 \times 10 \text{ mL} = 5 \text{ mL}$



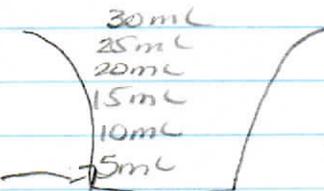
4. $\frac{375 \text{ mg}}{125 \text{ mg}} \times 5 \text{ mL}$

$3 \times 5 \text{ mL} = 15 \text{ mL}$



5. $\frac{40 \text{ mg}}{20 \text{ mg}} \times 2.5 \text{ mL}$

$2 \times 2.5 \text{ mL} = 5 \text{ mL}$



$$6. \frac{0.5 \text{ mg}}{0.25 \text{ mg}} = \boxed{2 \text{ mg}}$$

$$7. \frac{100 \text{ mcg}}{0.1 \text{ mg}} \quad 0.1000$$
$$\frac{100 \text{ mcg}}{100 \text{ mcg}} = \boxed{1 \text{ mcg}}$$

$$8. \frac{250 \text{ mg}}{100 \text{ mg}} = \boxed{2.5 \text{ mg}}$$

$$9. \frac{0.5 \text{ g}}{250 \text{ mg}} \quad 0.5000 \quad \frac{500 \text{ mg}}{250 \text{ mg}} = \boxed{2 \text{ mg}}$$

$$10. \frac{0.3 \text{ mg}}{300 \text{ mcg}} \quad 0.3000 \quad \frac{300 \text{ mcg}}{300 \text{ mcg}} = \boxed{1 \text{ mcg}}$$

Chapter 5: Proficiency Test #2

1. $\frac{10 \text{ mg}}{15 \text{ mg}} \times \text{ml} = \boxed{0.7 \text{ mL}}$

2. $\frac{0.1 \text{ g}}{200 \text{ mg}} \times 3 \text{ mL}$

$0.1 \text{ g} \rightarrow \frac{100 \text{ mg}}{200 \text{ mg}} = 0.5 \times 3 \text{ mL} = \boxed{1.5 \text{ mL}}$

3. $\frac{1000 \text{ mcg}}{5000 \text{ mcg}} \times \text{mL} = \boxed{0.2 \text{ mL}}$

4. $\frac{25 \text{ mg}}{1 \text{ g}} \times 100 \text{ mL} = \frac{25 \text{ mg}}{1000 \text{ mg}} \times 100 \text{ mL} = \boxed{2.5 \text{ mL}}$

5. $\frac{0.5 \text{ mg}}{0.4 \text{ mg}} \times \text{mL} = \boxed{1.3 \text{ mL}}$

6. NPH 10 units

Humulin 3 units

$\boxed{13 \text{ units}}$

7. $\frac{1.2 \text{ mEq}}{0.5 \text{ mEq}} \times 1 \text{ mL} = \boxed{2.4 \text{ mL}}$

8. $\frac{500 \text{ mcg}}{1:1000} \times \frac{0.5 \text{ mg}}{1,000 \text{ mcg}} \times 1,000 \text{ mL} = \boxed{0.5 \text{ mL}}$

9.

a. 2 mL sterile water

b. 1g / 2.6 mL

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

d. 2.6 mL

e. ϕ = nothing left in vial

f. discard properly

10.

a. 1.8 mL sterile water

b. 250 mg/mL

c. $\frac{300 \text{ mg}}{250 \text{ mg}} \times 1 \text{ mL} = 1.2 \text{ mL}$

d. 1.2 mL

e. Discard - must be used within 1 hr

f. No, discard properly.

Chapter 6: Proficiency Test 1 (1-14)

1. 0: 1000 mL D5NS; run 150 mL/hour IV
S: IV bag of 1000 mL D5NS

a. $\frac{1000}{150} = \boxed{6.7 \text{ hrs}}$

b. $\frac{150 \times 10}{60} = \boxed{25 \text{ gtt/min}}$

$\frac{150 \times 60}{60} = \boxed{150 \text{ gtt/min}}$

c. macro tubing

2. Order 100 mL LR 12 noon - 6pm IV

a. $\frac{100 \times 60}{360} = \frac{6,000}{360} = 16.6 = \boxed{17 \text{ gtt/min}}$

$\frac{100 \times 10}{360} = \frac{1,000}{360} = \boxed{3 \text{ gtt/min}}$

3. Order 150 mL NS IV over 3 hrs (180 min)

Supply: bag of 250 mL NS for IV macro tubing, 15 gtt/mL; micro tubing, 60 gtt/mL

- a. Set the pump to run @ 50 mL per hr and discard remainder

b. $\frac{150 \times 15}{180} = \frac{2,250}{180} = \boxed{13 \text{ gtt/min}}$

$\frac{150 \times 60}{180} = \frac{9,000}{180} = \boxed{50 \text{ gtt/min}}$

c. microdrip

4. Order 500 mL DSW IV KVO. Solve for 24 hr. Infusion pump is available. Pump setting?

a. $\frac{500}{24} = \boxed{21 \text{ mL/hr}}$

5. Order doxycycline (Vibramycin) 100 mg IVPB every day.
Supply 100 mg powder
Package directions: 250 mL DSW to infuse over 1 hr, macrodrip 10 gtt/mL

a. IVPB of 250 mL DSW mixed w/ 100 mg powder - 1 hr.

b. $\frac{250 \times 10}{60} = \frac{2500}{60} = \boxed{42 \text{ gtt/min}}$

6. Order: aminophylline 500 mg in 250 mL DSW to run 8 hr IV
Available: vial of aminophylline labeled 1g in 10 mL; microdrip tubing

a. $\frac{500 \text{ mg}}{1 \text{ g} = 1000 \text{ mg}} \times 10 \text{ mL} = \boxed{5 \text{ mL}}$

b. $\frac{250 \text{ mL}}{8 \text{ hr}} = \boxed{31 \text{ mL/hr}}$

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

20 +

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

total = 2800 mL

8. a. 90 mL/hr

b. $\frac{1000}{90} = 11.1 \text{ hrs}$

9. 50 mL

0.5g \Rightarrow 50 mg

a.

10. - 75 mL D5W - use 100 mL bag and remove 25 mL

- add 5 mL Bactrim

- 60 min

b. 60 min

2nd volume 75 Rate: 75

90 min

50 mL/hr

Vol: 75

Rate: 50

11. $\frac{3}{4} \times 150 = 112.5 \text{ mL}$

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

12. $\frac{1}{2} \times 500 \text{ mL} = 250 \text{ mL}$

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

13. $\frac{1}{4} \times 400 \text{ mL} = 100 \text{ mL}$

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

14. 0 mL if full strength Isocal

Chpt 7: Self Test #1-2

1. ^a $\frac{800 \text{ units/hr} \times 250 \text{ mL}}{25,000 \text{ units}} = 8 \text{ mL/hr}$

b. $\frac{250 \text{ mL}}{8 \text{ mL}} \times \text{hr} = \boxed{31.3 \text{ hr}}$

2. 100 mL/hr

3. $\frac{1000 \text{ mL}}{24 \text{ hr}} = 41.6 = 42 \text{ mL/hr}$

4. $\frac{10 \text{ mg/hr} \times 100 \text{ mL}}{125 \text{ mg}} = \boxed{8 \text{ mL/hr}}$

5. $\frac{4 \text{ mg/hr} \times 100 \text{ mL}}{100 \text{ mg}} = \boxed{4 \text{ mL/hr}}$

6. ^a $\frac{15 \text{ units/hr} \times 250 \text{ mL}}{125 \text{ units}} = 0.12 \times 250 = 30 \text{ mL/hr}$

b. $\frac{250 \text{ mL}}{30 \text{ mL}} \times \text{hr} = \boxed{8 \text{ hrs}}$

$$7. \frac{250 \text{ mL}}{24 \text{ hr}} = 10.4 \text{ mL/hr}$$

a.

$$8. \frac{1200 \text{ units}}{2500 \text{ units}} \times 500 \text{ mL} = 24 \text{ mL/hr}$$

b.

$$\frac{500 \text{ mL}}{24 \text{ mL/hr}} = 20.8 \text{ hrs}$$

or

$$21 \text{ hrs}$$

a.

$$9. \frac{23 \text{ units/hr}}{250 \text{ units}} \times 250 \text{ mL} = 23 \text{ mL/hr}$$

b.

$$\frac{250 \text{ mL}}{23 \text{ mL/hr}} = 10.9 \text{ or } 11 \text{ hrs}$$

$$10. \frac{100,000 \text{ units/hr}}{750,000 \text{ units}} = 33 \text{ mL/hr}$$

Self Test #2

a.

$$1. \frac{60 \text{ mg/hr}}{2000 \text{ mg}} \times 250 \text{ mL}$$

$$= 8 \text{ mL/hr}$$

b.

$$\frac{250 \text{ mL}}{8 \text{ mL/hr}} = 31.25 \text{ hrs}$$

a.

$$2. \frac{120 \text{ mg/hr}}{300 \text{ mg}} \times 300 \text{ mL} = 120 \text{ mL/hr}$$

b.

$$\frac{300 \text{ mL}}{120 \text{ mL/hr}} = 2.5 \text{ hrs}$$

3. a. $\frac{120 \text{ mg/hr}}{1000 \text{ mg}} \times 500 \text{ mL} = 60 \text{ mL/hr}$

b. $\frac{500 \text{ mL}}{60 \text{ mL/hr}} = 8.3 \text{ hrs}$

4. $\frac{60 \text{ mg}}{450 \text{ mg}} \times 250 \text{ mL} = 33 \text{ mL/hr}$

5. a. $\frac{8 \text{ mg/hr}}{80 \text{ mg}} \times 250 \text{ mL} = 25 \text{ mL/hr}$
 $\frac{60 \text{ mg/hr}}{80 \text{ mg}} \times 250 \text{ mL} = 188 \text{ mL/hr}$

b. $\frac{250 \text{ mL}}{188 \text{ mL/hr}} = 1.3 \text{ hrs}$