

SUBJECT: Angelina Thomas - Adult Health 2 1/16/2023
Henke's med math

Proficiency Test 1:

1) Order: KCl elixir 20 mEq PO BID
Supply: liquid labeled 30 mEq/15 mL

$$20 \text{ mEq} \cdot \frac{15 \text{ mL}}{30 \text{ mEq}} \cdot \frac{2}{1} = \boxed{20 \text{ mL/day}}$$

2) Order: Phenytoin susp 150 mg PO TID
Supply: liquid labeled 75 mg/7.5 mL

$$150 \text{ mg} \cdot \frac{7.5 \text{ mL}}{75 \text{ mg}} \cdot \frac{3}{1} = \boxed{45 \text{ mL/day}}$$

3) Order: digoxin 0.125 mg PO everyday
Supply: liquid labeled 0.25 mg/10 mL

$$0.125 \text{ mg} \cdot \frac{10 \text{ mL}}{0.25 \text{ mg}} = \boxed{5 \text{ mL}}$$

4) Order: Phenytoin oral susp. 375 mg PO TID
Supply: liquid labeled 125 mg/5 mL

$$375 \text{ mg} \cdot \frac{5 \text{ mL}}{125 \text{ mg}} = \boxed{15 \text{ mL}}$$

5) Order: cimetidine 40 mg
Supply: suspension labeled 20 mg/2.5 mL

$$40 \text{ mg} \cdot \frac{2.5 \text{ mL}}{20 \text{ mg}} = \boxed{5 \text{ mL}}$$

6) Order: digoxin 0.5 mg PO everyday
Supply: tablets labeled 0.25 mg/1 ml

$$0.5 \text{ mg} \cdot \frac{1 \text{ tab}}{0.25 \text{ mg}} = \boxed{2 \text{ tabs}}$$

SUBJECT:

7) order: digoxin 100 mcg everyday PO
 supply: 0.1mg capsules

$$100 \text{ mcg} \cdot \frac{1 \text{ mg}}{1000 \text{ mcg}} \cdot \frac{1 \text{ capsule}}{0.1 \text{ mg}} = \boxed{1 \text{ capsule}}$$

8) order: allopurinol 250mg PO everyday
 supply: scored tablets 100mg

$$250 \text{ mg} \cdot \frac{1 \text{ tab}}{100 \text{ mg}} = \boxed{2.5 \text{ tabs}}$$

9) order: ampicillin 0.5g PO q 6h
 supply: capsules labeled 250 mg

$$0.5 \text{ g} \cdot \frac{1000 \text{ mg}}{1 \text{ g}} \cdot \frac{1 \text{ capsule}}{250 \text{ mg}} \cdot 4 = \boxed{8 \text{ capsules}}$$

10) order: levothyroxine 0.3mg PO everyday
 supply: tablets labeled 300 mcg scored

$$0.3 \text{ mg} \cdot \frac{1000 \text{ mcg}}{1 \text{ mg}} \cdot \frac{1 \text{ tab}}{300 \text{ mcg}} = \boxed{1 \text{ tab}}$$

Chapter 5: Proficiency Test 2

1) order: morphine sulfate 10mg IV stat
 supply: vial labeled 15mg/mL (round to the nearest tenth)

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

2) order: phenobarbital 0.1g IM q 6h
 supply: ampule of liquid labeled 200mg/3mL

$$0.1 \text{ g} \cdot \frac{1000 \text{ mg}}{1 \text{ g}} \cdot \frac{3 \text{ mL}}{200 \text{ mg}} \cdot \frac{4}{5} = \boxed{1.2 \text{ mL}}$$

SUBJECT:

3) order: vitamin B12
 supply: vial labeled

$$1000 \text{ mcg} \cdot \frac{1 \text{ mL}}{5000 \text{ mcg}}$$

* 4) order: prepare 2
 supply: vial of 1

$$25 \text{ mg} \cdot \frac{1 \text{ g}}{1000 \text{ mg}}$$

5) order: Scopolamine
 supply: vial labeled

$$0.5 \text{ mg} \cdot \frac{1 \text{ mL}}{4 \text{ mg}}$$

6) order: NPH ins
 3 units
 supply: vials
 Humu

Humu

7) order: add 5
 supply: vial
 bicarbo

1.2r

8) Order: Ep
 supply: c

500r

SUBJECT:

3.) order: vitamin B12 1000 mcg IM everyday
 supply: vial labeled 5000 mcg/mL

$$1000 \text{ mcg} \cdot \frac{1 \text{ mL}}{5000 \text{ mcg}} = 0.2 \text{ mL}$$

* 4.) order: prepare 25 mg lidocaine
 supply: vial of liquid labeled 1%

$$25 \text{ mg} \cdot \frac{1 \text{ g}}{1000 \text{ mg}} = \frac{250 \text{ mL}}{100} = \boxed{2.5 \text{ mL}}$$

5.) order: Scopolamine 0.5 mg subq stat
 supply: vial labeled 0.4 mg/mL (round to the nearest tenth)

$$0.5 \text{ mg} \cdot \frac{1 \text{ mL}}{0.4 \text{ mg}} = \boxed{1.25 \text{ mL}}$$

6.) order: NPH insulin 10 units and Humulin insulin 3 units subq every day at 7am
 supply: vials of NPH insulin 100 units/mL + Humulin insulin 100 units/mL

$$\text{NPH } 10 \text{ units} \cdot \frac{1 \text{ mL}}{100 \text{ units}} = 0.1 \text{ mL}$$

$$\text{Humulin } 3 \text{ units} \cdot \frac{1 \text{ mL}}{100 \text{ units}} = 0.03 \text{ mL}$$

$$0.1 \text{ mL} + 0.03 \text{ mL} = 0.13 \text{ mL}$$

order: add sodium bicarbonate 1.2 mEq to IV stat
 supply: vial labeled infant 4.2% sodium bicarbonate 5 mEq (0.5 mEq/mL)

$$1.2 \text{ mEq} \cdot \frac{1 \text{ mL}}{0.5 \text{ mEq}} = \boxed{2.4 \text{ mL}}$$

order: Epinephrine 500 mcg subq stat
 supply: ampule of liquid labeled 1:1000

$$500 \text{ mcg} \cdot \frac{1 \text{ mL}}{1000 \text{ mcg}} = \boxed{0.5 \text{ mL}}$$

SUBJECT:

9.) order: Ticarcillin 1g IM
 supply: vial of powder labeled Ticar 1g

- a. sterile water 2mL, sodium chloride,
- b. 1g / 2.6 mL
- c. 2.6 mL
- d. 2.6 mL
- e. Nothing is left in the vial
- f. Discard the vial in a proper receptacle

$$1g \text{ Tic. } \frac{1000mg}{1g} \cdot \frac{1 \text{ mL}}{385mg} = 2.6 \text{ mL}$$

- 10.) a. 1.8 mL sterile water or bacteriostatic water for injection
- b. 250 mg / 1 mL
 - c. 1.2 mL
 - d. 1.2 mL
 - e. Discard the vial. Directions say solution must be used within 1 hour.
 - f. No. Discard the vial in an appropriate receptacle.

Chapter 6: Proficiency test 1

- 1.) a. 16.666 or 17 hrs
 b. 25 gtt/min or 150 gtt/min
 c. Macro tubing
 $\frac{150 \text{ mL}}{\text{hr}} \cdot \frac{1 \text{ hr}}{60 \text{ min}} \cdot \frac{10 \text{ gtt}}{1 \text{ mL}} = 25 \text{ gtt/min}$

- 2.) a. 1 hr = 360 minutes
 b. $\frac{100 \times 60}{360} = 16.6$ or 17 gtt/minute
 $\frac{100 \times 16}{360} \times 2.7$ or 3 gtt/minute
 c. $\frac{60 \text{ gtt}}{1 \text{ mL}} \cdot \frac{100 \text{ mL}}{6 \text{ hrs}} \cdot \frac{1 \text{ hr}}{60 \text{ mins}} = \frac{100}{6} = 16.6$ or 17 gtt/min

SUBJECT:

c. continued
 10# · 100 mL
 1 mL takes
 microdrip tubing

3) 100 mL to run
 set infusion @ 3 hrs = 180 mL
 microdrip

microdrip:

c. microdrip

4) 21 mL/hr = 500 mL - VC

5) a. use a res to 250 mL

$$b. \frac{250 \times 10}{100}$$

6) a: order
 add e

b. 250 mL
 3 hrs

7) 2500 mL =

SUBJECT:

c. continued...

$$\frac{10\cancel{H} \cdot 100\cancel{ML}}{1\cancel{ML}} \cdot \frac{1\cancel{hr}}{60\cancel{min}} = 27 \text{ or } 30 \text{ gtt/min}$$

microdrip tubing

3) 100 mL to runoff; leaving 150 mL NS.

Set infusion pump at 150 mL

3 hrs = 180 minutes

$$\text{macro drip: } \frac{150 \times 15}{180} = \frac{150}{12} = 12.5 \text{ or } 13 \text{ gtt/min.}$$

$$\text{microdrip: } \frac{150 \times 100}{180} = \frac{150}{3} = 50 \text{ gtt/min}$$

c. Microdrip

4) 21 mL/hr - infusion pump

500 mL - volume to be infused

5) a. Use a reconstitution device to add 100mg powder to 250 mL DSW and give IVPB over 1-hr (60 min)

$$b. \frac{250 \times 10}{60} = \frac{250}{6} \approx 41.6 = 42 \text{ gtt/min}$$

label the IVPB

6) a: Order is 500mg. Stock is 1g in 10mL

1g = 1000mg; 1000mg is in 10mL

Add 5 mL amino phylline to make 500mg in 250 mL DSW

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

$$7) \frac{2500 \text{ mL}}{20} = 125, \quad 125 \times 4 = 500 = \boxed{2500 \text{ mL}}$$

table

gtt/min

SUBJECT:

Chapter 7: Self-test 4 #1-2

1) $\sqrt{\frac{\text{kg} \cdot \text{cm}}{3600}} = \text{BSA}$

a. Dose is correct

$$20 \text{ mg/m}^2 \times 1.96 = 39 \text{ mg}$$

b. order: 250 mL / $\frac{1}{2}$ hr., but pump

is set in mL per/hr. Double 250 mL

setting; total number of mL = 250 mL;

mL/hr = 500 mL/hr.

pump will deliver 250 mL / $\frac{1}{2}$ hr.

2) correct: $130 \text{ mg/m}^2 \times 1.77 = 10\text{-mg tabs}$

Two 100-mg tabs and three 10-mg tabs