Math Review Answer Key

Conversions

100 mg = _____ g $100\ mg \times \frac{1\ g}{1{,}000\ mg} = 0.1\ g$

0.1 g = _____ mg $0.1\ g \times \frac{1{,}000\ mg}{1\ g} = 100\ mg$

1 oz = _____ mL $1\ oz \times \frac{30\ mL}{1\ oz} = 30\ mL$

500 mg = _____ g $500\ mg \times \frac{1\ g}{1{,}000\ mg} = 0.5\ g$

12 kg = _____ lb $12\ kg \times \frac{2.2\ lb}{1\ kg} = 26.4\ lb$

1 L = _____ mL $1\ L \times \frac{1{,}000\ mL}{1\ L} = 1{,}000\ mL$

300 mcg = _____ mg $300\ mcg \times \frac{1\ mg}{1{,}000\ mcg} = 0.3\ mg$

6 oz = _____ mL $6\ oz \times \frac{30\ mL}{1\ oz} = 180\ mL$

0.6 mg = _____ mcg $0.6\ mg \times \frac{1{,}000\ mcg}{1\ mg} = 600\ mcg$

10 oz = _____ mL $10\ oz \times \frac{30\ mL}{1\ oz} = 300\ mL$

600 mg = _____ g $600\ mg \times \frac{1\ g}{1{,}000\ mg} = 0.6\ g$

0.015 g = _____ mg $0.015\ g \times \frac{1{,}000\ mg}{1\ g} = 15\ mg$

12 tsp = _____ mL $12\ tsp \times \frac{5\ mL}{1\ tsp} = 60\ mL$

10 mcg = _____ mg $10\ mcg \times \frac{1\ mg}{1{,}000\ mcg} = 0.01\ mg$

90 mL = _____ tbs $90\ mL \times \frac{1\ tbs}{15\ mL} = 6\ tbs$

2 kg = _____ lb $2\ kg \times \frac{2.2\ lb}{1\ kg} = 4.4\ lb$

1,500 mcg = _____ g $1{,}500\ mcg \times \frac{1\ mg}{1{,}000\ mcg} \times \frac{1\ g}{1{,}000\ mg} = 0.0015\ g$

2,100 g = _____ kg $2{,}100\ g \times \frac{1\ kg}{1{,}000\ g} = 2.1\ g$

5,000 g = _____ mcg $5{,}000\ g \times \frac{1{,}000\ mg}{1\ g} \times \frac{1{,}000\ mcg}{1\ mg} = 5{,}000{,}000{,}000\ mcg$

8 tsp = _____ mL $8\ tsp \times \frac{5\ mL}{1\ tsp} = 40\ mL$

30 kg = _____ lb $30\ kg \times \frac{2.2\ lb}{1\ kg} = 66\ lb$

250 mcg = _____ mg $250\ mcg \times \frac{1\ mg}{1{,}000\ mcg} = 0.25\ mg$

102 F = _____ C $102\ F - 32 \div 1.8\ = 38.88, rounds\ up\ to\ 38.9\ C$

8.4 lb = _____ kg $8.4\ lb \times \frac{1\ kg}{2.2\ lb} = 3.8\ kg$

10 mg = _____ mcg $10\ mg \times \frac{1{,}000\ mcg}{1\ mg} = 10{,}000\ mcg$

0.2 g = _____ mg $0.2\ g \times \frac{1{,}000\ mg}{1\ g} = 200\ mg$

60 mL = _____ oz $60\ mL \times \frac{1\ oz}{30\ mL} = 2\ oz$

0.001 mg = _____ mcg $0.001\ mg \times \frac{1{,}000\ mcg}{1\ mg} = 1\ mcg$

38.7 C = _____ F $38.7\ C \times 1.8 + 32 = 101.66, rounds\ up\ to\ 101.7\ F$

150 lb = _____ kg $150\ lb \times \frac{1\ kg}{2.2\ lb}$ =68.18, rounds up to 68.2 kg

9 tsp = _____ tbs $9\ tsp \times \frac{5\ ml}{1\ tsp} \times \frac{1\ tbs}{15\ mL} = 3\ tbs$

Story Problems **NOTE:** F: formula method; DA: Dimensional Analysis; R/P: ratio/proportion

1. A health care provider (HCP) orders carbamazepine (Tegretol) 0.2 g tabs orally TID for a client with an onset of new seizures.
   Available from pharmacy: carbamazepine (Tegretol) 100 mg tabs
   A nurse will administer how many **tablets** per dose? _____2_____

$$F\text{: } 0.2\ g \times \frac{1000\ mg}{1\ g} = 200\ mg \quad \frac{200\ mg}{100\ mg} \times 1\ tab = 2$$

OR

$$DA\text{: } ?\ tab \quad \frac{1\ tab}{100\ mg} \times \frac{1000\ mg}{1\ g} \times \frac{0.2\ g}{1} = 2$$

OR

$$\frac{R}{P}\text{: } \frac{100\ mg}{1\ tab} = \frac{200\ mg}{X\ tab} = 2$$

   How many milligrams will the client receive in 24 hours? _____600_____

$$0.2\ g \times \frac{1000\ mg}{1\ g} = 200\ mg \quad 200\ mg\ x\ tid\ (3) = 600$$

2. A health care provider (HCP) orders hydrochlorothiazide 12.5 mg orally TID
   Available from pharmacy: hydrochlorothiazide 25 mg scored tablets
   A nurse will administer how many **tablets** per dose? _____0.5_____

$$F: \ \frac{12.5\ mg}{25\ mg} \times 1\ tab = 0.5$$

OR

$$DA: \ ?\ tab \ \ \frac{1\ tab}{25mg} \times \frac{12.5\ mg}{1} = 0.5$$

OR

$$\frac{R}{P}: \ \frac{25\ mg}{1\ tab} = \frac{12.5\ mg}{X\ tab} = 0.5$$

How many milligrams will the client receive in 24 hours? _____37.5 _____

$$12.5\ mg\ x\ tid\ (3\ doses) = 37.5$$

3. A health care provider (HCP) orders digoxin (Lanoxin) 375 mcg orally once a day.
   Available from pharmacy: digoxin (Lanoxin) 0.25 mg scored tablets.
   A nurse will administer how many **tablets** per dose? _____1.5 _____

$$F\ \ 375\ mcg \times \frac{1\ mg}{1000\ mcg} = 0.375\ mg \ \ \frac{0.375\ mg}{0.25\ mg} \times 1\ tab = 1.5$$

OR

$$DA: \ \ ?\ tab \ \ \frac{1\ tab}{0.25\ mg} \times \frac{1\ mg}{1000\ mcg} \times \frac{375\ mcg}{1} = 1.5$$

OR

$$\frac{R}{P}: \ \ 375\ mcg \times \frac{1\ mg}{1000\ mcg} = 0.375\ mg \ \ \frac{0.25\ mg}{1\ tab} = \frac{0.375\ mg}{X\ tab} = 1.5$$

4. A health care provider orders linezolid (Zyvox) 0.6 g orally q12h
   Available from pharmacy: linezolid (Zyvox) oral suspension 100 mg per 5 mL
   A nurse will administer how many **milliliters** per dose? _____30 _____

$$F\ \ 0.6\ g \times \frac{1000\ mg}{1\ g} = \ 600\ mg \ \ \frac{600\ mg}{100\ mg} \times 5\ mL = 30$$

OR

$$DA \ \ ?\ mL \ \ \ \frac{5\ mL}{100\ mg} \times \frac{1000\ mg}{1\ g} \times \frac{0.6\ g}{1} = 30$$

OR

$$\frac{R}{P}:\ 0.6\ g \times \frac{1000\ mg}{1\ g} = 600\ mg \quad \frac{100\ mg}{5\ mL} = \frac{600\ mg}{X\ mL} = 30$$

If the container holds 600 mL, how many doses are in the bottle? ____20_____

$$600\frac{mL}{bottle} \div 30\frac{mL}{dose} = 20\ doses$$

5. A health care provider orders valproic acid (Depakene) 150 mg orally BID
   Available from pharmacy: valproic acid (Depakene) oral suspension 250 mg per 5 mL
   A nurse will administer how many **milliliters** per dose? _____3_____

$$F:\ \frac{150\ mg}{250\ mg} \times 5\ mL = 3$$

OR

$$DA:\ ?\ mL\ \ \frac{5\ mL}{250\ mg} \times \frac{150\ mg}{1} = 3$$

OR

$$\frac{R}{P}:\ \ \frac{250\ mg}{5\ mL} = \frac{150\ mg}{X\ mL} = 3$$

If the container holds 180 mL, how many doses are in the bottle? 60

$$180\frac{mL}{bottle} \div 3\frac{mL}{dose} = 60$$

6. A health care provider orders ketorolac (Toradol) 25 mg IM q6h prn for severe pain
   Available from pharmacy: ketorolac 15 mg/mL
   A nurse will administer how many **milliliters** per dose? _____1.7
   _____

$$F:\ \frac{25\ mg}{15\ mg} \times 1\ mL = 1.66, rounds\ up\ to\ 1.7$$

OR

$$DA:\ ?\ mL\ \ \frac{1\ mL}{15\ mg} \times \frac{25\ mg}{1} = 1.66, rounds\ up\ to\ 1.7$$

OR

$$\frac{R}{P}: \frac{15\ mg}{1\ ml} = \frac{25\ mg}{X\ mL} = 1.7$$

7. A healthcare provider orders ondansetron (Zofran) 3 mg slow IV push X 1 dose stat.
   Available from pharmacy: ondansetron (Zofran) 4 mg/2 mL single dose vial
   A nurse will administer how many **milliliters** of ondansetron per dose? ____1.5 _____

$$F: \frac{3\ mg}{4\ mg} \times 2\ mL = 1.5$$

OR

$$DA: \ ?\ mL \quad \frac{2\ mL}{4\ mg} \times \frac{3\ mg}{1} = 1.5$$

OR

$$\frac{R}{P}: \frac{4\ mg}{2\ mL} = \frac{3\ mg}{X\ mL} = 1.5$$

8. A health care provider orders a client with psoriasis hydrocortisone cream 2%
   (2 g/100 mL) topical ointment. The client is to apply 100 mg (1 applicator full) to the right elbow BID and cover with an occlusive dressing.
   How many **milliliters** does the client administer per dose? _____5 _____

$$F: 2\ g \times \frac{1000\ mg}{1\ g} = 2{,}000\ mg \quad \frac{100\ mg}{2{,}000\ mg} \times 100\ mL = 5$$

OR

$$DA: \ ?\ mL \quad \frac{100\ mL}{2\ g} \times \frac{1\ g}{1{,}000\ mg} \times \frac{100\ mg}{1} = 5$$

OR

$$\frac{R}{P}: \ 2\ g \times \frac{1000\ mg}{1\ g} = 2{,}000\ mg \quad \frac{2{,}000\ mg}{100\ mL} \times \frac{100\ mg}{X\ mL} = 5$$

9. A health care provider orders heparin 6,000 units subcut q12h. Available from pharmacy: heparin 10,000 units/mL vial

A nurse will administer how many **milliliters** per dose? _____0.6 _____

$$F: \frac{6{,}000\ units}{10{,}000\ units} \times 1\ mL = 0.6$$

OR

$$DA: \ ?\ mL \quad \frac{1\ mL}{10{,}000\ units} \times \frac{6{,}000\ units}{1} = 0.6$$

OR

$$\frac{R}{P}: \frac{10{,}000\ units}{1\ mL} = \frac{6{,}000\ units}{X\ mL} = 0.6$$

10. A health care provider orders enoxaparin sodium (Lovenox) 65 mg subcut q12h
    Available from pharmacy: enoxaparin sodium (Lovenox) 40 mg/0.4 mL syringe
    A nurse will administer how many **milliliters** per dose? _____0.65 _____

$$F: \frac{65\ mg}{40\ mg} \times 0.4\ mL = 0.65$$

OR

$$DA: \ ?mL \quad \frac{0.4\ mL}{40\ mg} \times \frac{65\ mg}{1} = 0.65$$

OR

$$\frac{R}{P}: \frac{40\ mg}{0.4\ mL} = \frac{65\ mg}{X\ mL} = 0.65$$

11. A health care provider orders Novolin R (regular U-100 insulin) 21 units with Novolin N (NPH U-100) 15 units subcut stat.
    A nurse will administer **how many total units** of insulin? _____36_____

$$21\ units + 15\ units = 36$$

12. A health care provider orders Humulin R (regular U-100 insulin) 16 units with Humulin N (NPH U-100 insulin) 42 units subcut stat
    A nurse will administer **how many total units** of insulin? _____58 _____

$$16\ units + 42\ units = 58$$

13. A healthcare provider orders methylprednisolone sodium succinate (Solu-Medrol) 175 mg slow IV push daily. The pharmacy sends a 500 mg vial of powdered medication for reconstitution with the following mixing directions: Reconstitute with 8 mL of Bacteriostatic Water for injection with Benzyl Alcohol. Mix well. The resulting concentration is 500 mg per 8 mL.
A nurse will administer how many **milliliters** per dose? _____2.8 _____

$$F: \frac{175\ mg}{500\ mg} \times 8\ mL = 2.8$$

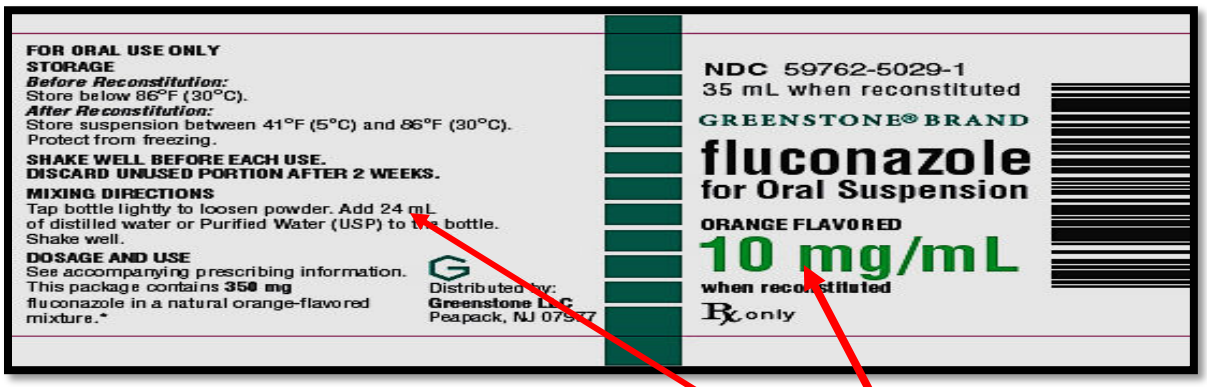
OR

$$DA: ?mL \quad \frac{8\ mL}{500\ mg} \times \frac{175\ mg}{1} = 2.8$$

OR

$$\frac{R}{P}: \frac{500\ mg}{8\ mL} = \frac{175\ mg}{X\ mL} = 2.8$$

14. Read the label below and use it to answer the following question:
A prescriber orders a client with pneumonia to receive fluconazole 50 mg orally BID. The pharmacy supplies fluconazole suspension. See Label Below:



How many **milliliters** of diluent should be added? _____24_____
After reconstitution, how many **milligrams** are in one milliliter? __10___
How many **milliliters** will a nurse administer per dose? _____5_____

$$F: \frac{50\ mg}{10\ mg} \times 1\ mL = 5$$

OR

$$DA \quad ?mL = \frac{1\ mL}{10\ mg} \times \frac{50\ mg}{1} = 5$$

OR

$$\frac{R}{P}: \frac{10\ mg}{1\ mL} = \frac{50\ mg}{X\ mL} = 5$$

How many **milligrams** will the client receive in 24 hours? _____100_____

$$50\ mg\ x\ BID\ (2\ doses\ per\ day) = 100$$

If the bottle contains 35 mL, how many **total doses** are available? 7

$$35\frac{mL}{bottle} \div 5\frac{mL}{dose} = 7$$

15. A diabetic client is to receive mealtime coverage for carbohydrate intake with Regular insulin subcutaneously. The client's insulin to carbohydrate ratio is 1:12. The client consumed 72 grams of carbohydrates at their meal.
    How many **units of regular insulin** should a nurse administer? ____6_____

$$72\ g\ CHO \div 12\frac{units}{g} = 6$$

16. A type I diabetic client has the following insulin orders:
    Check the client's capillary blood glucose before meals and cover with Humulin R per sliding scale orders, this dose is in addition to the regularly scheduled dose of morning insulin.

    Give Humulin N (NPH U-100) 25 units and Humulin R (regular U-100) 6 units subcut with breakfast at 0800.

    Sliding Scale Coverage

0 - 150	Give 0 units
151 - 175	Give 2 units
176 - 200	Give 4 units
201 - 225	Give 6 units
226 - 250	Give 8 units
> 250	Call Prescriber

    The RN noted that the client's AM glucose was 202 at 0745 hrs

    How many **units of regular insulin** should be given? ____6 units + 6 units = 12_____

    How much **total insulin** should be given? _____25 N + 12 R = 37 _____

17. A health care provider orders 1000 mL of 5% Dextrose in Water (D5W) to infuse over 8 hours. A nurse will set the IV pump for how many **milliliters per hour**? ___125 _

$$1000\ mL \div 8\ hr = 125$$

18. A health care provider orders a client to receive 1500 mL of Lactated Ringers Solutions (LR) over 8 hours. How many **milliliters per hour** should the IV pump be programmed by a nurse? ____188 ____

$$1500\ mL \div 8\ hr = 187.5, rounds\ up\ to\ 188$$

19. An IV is infusing a 66 ml/hr. A nurse notes that there are 429 ml left in the IV and the time is 0915 hours. At **what time** in hours and minutes (use military time) will the infusion be complete? _____1545 hrs_____

$$429\ mL \div 66 \frac{mL}{hr} = 6.5\ hours$$

$$60 \frac{min}{hr} \div 0.5\ hr = 30\ minutes$$

$$0915\ hr + 6.5\ hrs = 1545\ hrs$$

20. A health care provider orders piperacillin and tazobactam (Zosyn) 1.3 g in 100 mL of 5% Dextrose in Water (D5W) IVPB to infuse in 30 minutes.
A nurse will set the IV pump for how many **milliliters per hour**? ___200 _____

$$\frac{30\ min}{60\ min/hr} = 0.5\ hr \quad \frac{100\ mL}{0.5\ hr} = 200$$

21. A health care provider orders 50 mL of an IVPB antibiotic solution to infuse in 30 minutes.
A nurse will set the IV for how many **milliliters per hour**? ___100 _____

$$\frac{30\ min}{60\ min/hr} = 0.5\ hr \quad \frac{50\ mL}{0.5\ hr} = 100$$

22. A health care provider orders 5% Dextrose in Water (D5W) 1000 mL IV to infuse in 12 hours. Drop factor of the tubing is 20 gtts/mL. How many **drops per minute** will a nurse set the infusion? ___28 _____

$$\frac{1000\ mL}{12\ hr \times} \frac{\times 20\ gtts/mL}{60\ min/hr} = 27.7, rounds\ up\ to\ 28$$

23. A health care provider orders a client to receive 500 mL of blood plasma over 4 hours.

Drop factor of the tubing is 15 gtts/mL.
How many **drops per minute** will a nurse set the infusion? _____31_____

$$\frac{500\ mL}{4\ hr} \times \frac{15\ gtts/mL}{60\ min/hr} = 31.25, rounds\ down\ to\ 31$$

24. A health care provider orders ampicillin 500 mg dissolved in 100 mL of 5% Dextrose in Water (D5W) to infuse in 1 hour via IVPB. Drop factor of the tubing is 10 gtts/mL
Calculate the **milliliters per hour**. _____100_____
Calculate the **drops per minute**. _____17 _____

$$\frac{mL}{hr}: \frac{100\ mL}{1\ hr} = 100$$

$$\frac{100\ mL}{1\ hr} \times \frac{10\ gtts/mL}{X\ \ 60\ min/hr} = 16.66, rounds\ up\ to\ 17$$

25. A health care provider orders a client to receive 500 mL of 5% Dextrose and 0.45% Sodium Chloride (D5&1/2NS) to infuse over 6 hours. Drop factor of the tubing is 20 gtt/mL
Calculate the **milliliters per hour**. _____83.3_____
Calculate **drops per minute**. _____28 _____

$$\frac{500\ mL}{6\ hr} = 83.3$$

$$\frac{500\ mL}{6\ hr} \times \frac{20\ gtts/mL}{60\ min/hr} = 27.7, \text{rounds up to } 28$$

26. A health care provider orders a client to receive 0.9% Sodium Chloride (NS) 500 mL mixed with heparin 20,000 units to infuse at 1,400 units/hr
A nurse will set the IV pump for how many **milliliters per hour**? _____35 ____

$$DA: ?\frac{mL}{hr} \quad \frac{500\ mL}{20{,}000\ units} \times \frac{1{,}400\ units/hr}{1} = 35$$

OR

$$F: \frac{1{,}400\ units/hr}{20{,}000\ units} \times 500\ mL = 35$$

OR

$$\frac{R}{P}: \frac{20{,}000\ units}{500\ mL} = \frac{1{,}400\ units}{X\ mL} = 35$$

27. A health care provider orders a client to receive regular insulin to infuse at 3 units/hr The insulin comes from pharmacy in a concentration of 100 units of regular insulin in 200 mL of 0.9% Sodium Chloride (NS).
A nurse will set the IV pump at how many **milliliters per hour**? _____6 _____

$$F: \frac{3\ units/hr}{100\ units} \times 200\ mL = 6$$

OR

$$DA: ?\frac{mL}{hr} \quad \frac{200\ mL}{100\ units} \times \frac{3\ units/hr}{1} = 6$$

OR

$$\frac{R}{P}: \frac{100\ units}{200\ mL} = \frac{3\ units/hr}{X\ mL} = 6$$

28. A health care provider orders potassium chloride 40 mEq in 1000 mL of D5W to infuse at 2 mEq/hr. A nurse will program the IV pump for how many **milliliters per hour**? _50 ___

$$F: \frac{2\ mEq/hr}{40\ mEq} \times 1000\ mL = 50$$

OR

$$DA: ?\frac{mL}{hr} \quad \frac{1000\ mL}{40\ mEq} \times \frac{2\ mEq/hr}{1} = 50$$

OR

$$\frac{R}{P}: \frac{40\ mEq/hr}{1000\ mL} \times \frac{2\ mEq}{X\ mL/hr} = 50$$

29. A health care provider orders lidocaine 2 g IV in 500 mL of D5W to infuse at 2 mg/min Calculate the **milliliters per hour** to set the IV pump. _____30 _____

$$DA: ?\frac{mL}{hr} \quad \frac{500\ mL}{2\ g} \times \frac{2\ mg/min}{1} \times \frac{60\ min}{1\ hr} \times \frac{1\ g}{1000\ mg} = 30$$

OR

$$\frac{r}{p}:\ 2g \times \frac{1{,}000\ mg}{1\ g} = 2{,}000\ mg;\ \frac{20\ mg}{1\ min} \times \frac{60\ min}{hr} = \ 120\frac{mg}{hr}$$

$$\frac{2{,}000\ mg}{500\ mL} = \frac{120\ mg/hr}{X\ mL} = 30$$

30. A health care provider orders nitroglycerin 125 mg IV in 500 mL of D5W to infuse at 42 mcg/min for a client having chest pain.
A nurse will set the IV pump to infuse at how many **millimeters per hour**? __10.1_

$$DA:\ ?\frac{mL}{hr} \quad \frac{500\ mL}{125\ mg} \times \frac{1\ mg}{1000\ mcg} \times \frac{42\ mcg/min}{1} \times \frac{60\ min}{1\ hr} = 10.08, round\ to\ 10.1$$

OR

$$\frac{R}{P}:\ \frac{42\ mcg}{1\ min} \times \frac{60\ min}{1\ hr} = 2{,}520\frac{mcg}{hr};\quad 2{,}520\ mcg \times \frac{1\ mg}{1{,}000\ mcg} = 2.52\ mg/hr$$

$$\frac{125\ mg}{500\ mL} = \frac{2.52\ mg/hr}{X\ mL/hr} = 10.1$$

31. A health care provider orders oxytocin (Pitocin) 15 units IV in 500 mL of lactated ringers solution (LR) to infuse at 1 milliunit/min.
A nurse will set the IV pump to infuse at how many **milliliters per hour?** ___2 ___

$$DA:\ ?\frac{mL}{hr} \quad \frac{500\ mL}{15\ units} \times \frac{1\ unit}{1000\ milliunits} \times \frac{1\ milliunit/min}{1} \times \frac{60\ min}{1\ hr} = 2$$

OR

$$\frac{R}{P}:\ \frac{1\ milliunit}{1\ min} \times \frac{60\ min}{1\ hr} = 60\frac{milliunits}{hr};\ 60\frac{milliunits}{hr} \times \frac{1\ unit}{1{,}000\ milliunits} = 0.06\ units/hr$$

$$\frac{15\ units}{500\ ml} \times \frac{0.06\ units}{X\ mL/hr} = 2$$

32. tirofiban (Aggrastat) is ordered to infuse at 0.1 mcg/kg/min for a patient weighing 136 lbs. A premixed IV bag that contains 12.5 mg in 250 mL NS is on hand.
How many **milliliters per hour** will a nurse set the pump? _____7.4_____

$$DA\frac{mL}{hr} \quad \frac{250\ mL}{12.5\ mg} \times \frac{1\ mg}{1000\ mcg} \times \frac{0.1\frac{mcg}{kg}/min}{2.2\ lb} \times \frac{136\ lb}{1\ hr} \times \frac{60\ min}{1} = 7.4$$

OR

$$\frac{R}{P}:\ 136\ lb = \frac{1\ kg}{2.2\ lb} = 61.8\ kg; \quad 61.8\ kg \times \frac{0.1\ mcg/kg}{1\ min} = 6.18\frac{mcg}{min} \times \frac{60\ min}{1\ hr} = 370.8\frac{mcg}{hr}$$

$$\frac{370.8\ mcg}{hr} \times \frac{1\ mg}{1{,}000\ mcg} = 0.3708\frac{mg}{hr}$$

$$\frac{12.5\ mg}{250\ mL} = \frac{0.3708\ mg/hr}{X\ mL} = 7.4$$

33. A health care provider orders dicloxacillin sodium 125 mg orally q6hr for a child who weighs 62 lb.
    The recommended dosage of dicloxacillin sodium for children weighing less than 40 kg is 12.5 to 25 mg/kg/day po in equally divided doses q6hr for moderate to severe infections.
    Child's weight in kg: ____28.2 kg_____
    Is the dosage ordered in range: **ANSWER EITHER** yes or no ____yes _____
    Rationale: 24-hour dose is 500 mg and this falls between 352.5 and 705 mg/day

$$62\ \ lb \times \frac{1\ kg}{2.2\ lb} = 28.18, rounds\ up\ to\ 28.2\ kg$$

$$range:\ 28.2\ kg \times \frac{12.5\frac{mg}{kg}}{day} = 352.5\frac{mg}{day}\ \ to\ \ 28.2\ kg \times \frac{25\frac{mg}{kg}}{day} = 705\ mg/day$$

$$dose\ ordered\ is\ 125\ mg\ every\ 6\ hours = 125\ mg \times 4\ doses = 500\frac{mg}{day}$$

$$the\ dose\ is\ in\ range\ and\ can\ be\ given$$

34. A health care provider orders kanamycin sulfate (Kantrex) 34 mg IM q8hr for an infant who weighs 7 lb 3 oz.
    The recommended dosage is 15 mg/kg/day in 2 or 3 equal doses
    Infant's weight in kg: _____3.3 kg_____
    Is the dosage ordered in range: **ANSWER EITHER** yes or no _No _____
    Rationale: single dose should be 16.5 mg and the HCP ordered 34 mg/dose, do not administer, call HCP to clarify order_____

$$7.3\ lb \times \frac{1\ kg}{2.2\ lb} = 3.3\ kg$$

$$range:\ 3.3\ kg \times \frac{15\frac{mg}{kg}}{day} = 49.5\frac{mg}{day}$$

$$to\ be\ divided\ into\ 3\ doses = 16.5\ mg\ per\ dose$$

35. A health care provider orders glycopyrrolste (Robinul) 50.8 mcg IM 60 minutes before surgery for a child who weighs 28 lb.
    Recommended dosage is 4 mcg/kg 30 to 60 minutes before surgery
    Child's weight in kg: ___12.7 kg_____
    Is the dosage order in range: **ANSWER EITHER** yes or no ____yes_____
    Rationale: the ordered dose and recommended dose are the same and safe to give____

$$28\ lb \times \frac{1\ kg}{2.2\ lb} = 12.7\ kg$$

$$range:\ 12.7\ kg \times 4\frac{mcg}{kg}$$

$$= 50.8\ mcg\ single\ dose:\ this\ is\ exactly\ what\ is\ ordered\ and\ is\ safe\ to\ give$$