*Leticia Herrera*

# IM 7 Math Module
Complete the required math problems and check your answers.

Drop Factor Problems

1. Infuse 1.5 gram of a medication over 3 hours. The drug is supplied as 1.5 gram/250mL. The drip factor is 15. How many gtt/min will you infuse? (Round to the nearest whole number)  **21**

$$\frac{250 \times 15}{180}$$

2. An order has been written to give 1 gram of a medication over 30 minutes. The drug is supplied as 1 gram/50mL. The gtt factor is 60. How many gtt/min will you infuse?  **100**

$$\frac{50 \times 60}{30}$$

3. The nurse is to give 500mg IV of a medication over 1 hr. The drug is supplied as 1 ~~gram~~/250mL. The gtt factor is 15. How many gtt/min will you infuse? (Round to the nearest whole number)

$1000/mg$    $250 \div 2 = 125mL = 500mg$    $31.25 =$  **31**    $125mL \times 15 = \dfrac{1875}{60}$

4. The patient is to receive 400 mg IV of a medication over 1 hour. You receive an IV bag from the pharmacy labeled 400 mg in 100 mL D5W. The IV tubing delivers 12 gtt/mL. How many drops per minute (gtt/min) will the nurse deliver?  **20**

$$\frac{100mL \times 12 = 1200}{60 =}$$

mL/hr Infuse over time

5. The physician writes an order to give 1000mL of intravenous fluid over 8hrs. How many mL/hr will you infuse?  **125 mL/hr**

6. Infuse 1000 mLs of intravenous fluid over 4 hrs. How many mL/hr will you set on the pump?  $\dfrac{100}{4}$  **250**

7. A physician orders 1000 mg of a medication to be given every 6 hours over 1.5 hours. The medication is delivered with 1000 mg in 250 mL. How many mL/hr will you set the pump? (Round to the nearest whole number)  **167 mL**

$= 90min$

$$\frac{1000mg}{1.5} = 667 \, me/hr$$
$$\frac{1000 \times 2.50}{= V 66.7}$$

IV Push

8. An order is received for 75mcg IV push of a medication now. The drug is supplied as 100mcg/2mL. How many mL will you give?  **1.5**

$\dfrac{75}{100} = 0.75 \times 2 =$

9. The patient is to receive 5mg of a medication IV push. The drug is supplied as 20mg/5mL. How many mL will you give? (Do not round your final answer)  **1.25**

$\dfrac{5}{20} \times 5$

10. The order is to give 2mg IV push of a medication now. The drug is supplied as 10mg/1mL. How many mL will you give?

$$\frac{2mg}{10mg} \times 1 = \boxed{0.2mL}$$

# IM 7 Math Module
Complete the required math problems and check your answers.

Mcg/kg/min or Mcg/min

11. The patient is receiving an intravenous medication currently infusing at 142 mL/hr. The IV bag of reads 50 mg in 500 mL D5W. The patient weighs 175 lbs. How many mcg/kg/min are infusing? (Round to the nearest tenth)

*[handwritten annotations: 3, 79.5, 4770]*

12. The physician has ordered a medication that states to start at 1 mcg/kg/min and titrate as needed. The IV bag of medication contains 250 mg in 500 mL D5W. The patient weighs 70 kg. How many mL/hr should the IV pump be set at to achieve the starting dose? (Round to the nearest whole number)

*[handwritten: 8.4, = 8, 100mg/... = 2.4]*

13. The patient is currently receiving a medication at 12 mL/hr. The bottle reads 100 mg in 250 mL D5W. How many mcg/min is the patient receiving?

*[handwritten: 400 mg/mL = 8]*

14. The physician has ordered a medication to start at 2 mcg/kg/min. The patient weighs 165 lbs. The IV bag reads 800 mg in 500 mL D5W. What rate would the nurse set on the infusion pump? (Round to the nearest tenth)

*[handwritten: 5.6, 800, 150 mcg/min]*

15. The physician has written an order to increase the medication to 4 mcg/kg/min. The IV bag reads 64 mcg/mL. What rate would the nurse set on the IV pump? (Round to the nearest tenth)

*[handwritten: 38, 4/π, $\frac{...}{64}$ = 3x]*

16. The patient is on a medication drip infusing at 15 mL/hr. The label reads 50 mcg/mL. The patient weighs 65 kg. How many mcg/min is the patient receiving? (Do not round)

*[handwritten: 12.5]*

Heparin/Insulin or mg/hr

17. The physician orders a heparin infusion at 500 units/hr. The IV bag of medication reads 25,000 units in 250 mL D5W. How many mL/hr should be showing on the IV pump?

*[handwritten: $\frac{500}{25000} \times 250 =$ 5]*

18. The patient is on a regular insulin drip infusing at 5 units/hr. The bag is labeled 100 units in 250 mL NS. At what rate should the pump be infusing? Round to the nearest whole number.

*[handwritten: 12.5 = 13, $\frac{5}{100}$ = 0.05 x 250 12.5]*

Burns (Parkland Formula) Do not round weights

19. A 200-pound patient presents to the emergency department with 50% total body surface area (TBSA) burn. How many liters of fluid would be given in the first 24 hours? (Round to the nearest whole number)

*[handwritten: 18.18 = 18, 4mL x 50 x 90.9 = 18.18]*

20. A 150-pound patient presents to the emergency department with 75% total body surface area (TBSA) burn. How many liters of fluid would be given in the first 24 hours? (Round to the nearest whole number)

*[handwritten: 68.1, 20, 4mL x 75 x 68.1 = $\frac{20430}{1000}$ = 20.43]*