

IM 7 Math Module

Complete the required math problems and submit to Math drop box

Name Marianna Dolar

1. Infuse 1 gram of a medication over 45 minutes. The drug is supplied as 1gram/50ml.

The drip factor is 15. How many gtt/min will you infuse?

$$\frac{50 \text{ mL} \times 15 \text{ gtt}}{45 \text{ min}} = 16.66 = \boxed{17 \text{ gtt/min}}$$

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

$$\frac{1,000 \text{ mL}}{8 \text{ hr}} = \boxed{125 \text{ mL/hr}}$$

3. 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?

$$\frac{250 \text{ mL} \times 15 \text{ gtt}}{100 \text{ min}} = 37.5 = \boxed{38 \text{ gtt/min}}$$

4. 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?

$$\frac{50 \text{ mL} \times 60 \text{ gtt}}{30 \text{ min}} = \boxed{100 \text{ gtt/min}}$$

5. The nurse is to give 500mg IV of a medication over 1 hr. The drug is supplied as 1gram/250mL. The gtt factor is 15. How many gtt/min will you infuse?

$$\frac{500 \text{ mg}}{1,000 \text{ mg}} \times 250 \text{ mL} = 125 \text{ mL} \quad \frac{125 \text{ mL} \times 15 \text{ gtt}}{60 \text{ min}} = 31.25 = \boxed{31 \text{ gtt/min}}$$

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

$$\frac{75 \text{ mcg}}{100 \text{ mcg}} \times 2 \text{ mL} = \boxed{1.5 \text{ mL}}$$

7. Infuse 1000 mLs of intravenous fluid over 4 hrs. How many mL/hr will you set on the pump?

$$\frac{1,000 \text{ mL}}{4 \text{ hr}} = \boxed{250 \text{ mL/hr}}$$

IM 7 Math Module

Complete the required math problems and submit to Math drop box

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

$$\frac{5\text{mg}}{20\text{mg}} \times 5\text{ mL} = \boxed{1.25\text{ mL}}$$

9. The order is to give 2mg IV of a medication now. The drug is supplied as 10mg/mL.

How many mL will you give?

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

10. Infuse 500mg IV of a medication over 8 hrs. The drug is supplied as 500mg/100mL. The drip factor is 60. How many gtt/min will you infuse?

$$\frac{100\text{mL} \times 60\text{ gtt}}{480\text{ mins}} = 12.5 = \boxed{13\text{ gtt/min}}$$

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.

$$175\text{ lbs} = 79.5\text{ kg} \quad 0.1 \times 1000 = 100\text{mcg/mL} \quad \frac{100(\text{mcg/mL}) \times 142}{79.5(\text{kg}) \times 60(\text{min/hr})} = \boxed{3\text{ mcg/kg/min}}$$

$$50\text{mg} / 500\text{mL} = 0.1\text{mg}$$

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.

$$70 \times 1 = 70\text{ kg} \quad \frac{70 \times 60}{500} = \boxed{8\text{ mL/hr}}$$

$$250 / 500 = 0.5 \times 1,000 = 500\text{mcg}$$

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?

$$100\text{mg} / 250\text{mL} = 0.4 \times 1000 = 400\text{mcg} \quad \frac{400(\text{mcg}) \times 12(\text{mL/hr})}{60(\text{min/hr})} = \boxed{80\text{ mcg/min}}$$

14. 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?

$$25,000 / 250 = 100\text{ units/mL}$$

$$\frac{500\text{ units}}{100\text{ units/mL}} = \boxed{5\text{ mL/hr}}$$

IM 7 Math Module

Complete the required math problems and submit to Math drop box

15. 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.

$$165 \text{ lbs} = 75 \text{ kg}$$

$$75 \text{ kg} \times 2 \text{ mcg} = 150$$

$$\frac{150 \times 60}{1,000} = \boxed{5.6 \text{ mL/hr}}$$

16. The physician in the previous questions has now written an order to increase the medication to 4 mcg/kg/min. Using the information in the previous question, what rate would the nurse set on the IV pump? Round to the nearest tenth.

$$75 \text{ kg} \times 4 = 300 \text{ mcg}$$

$$\frac{300 \times 60}{1,000} = \boxed{11.3 \text{ mL/hr}}$$

17. 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.

$$100 \text{ units} / 250 \text{ mL} = 0.4 \text{ units/mL}$$

$$\frac{5 \text{ units/hr}}{0.4 \text{ units/mL}} = \boxed{13 \text{ mL/hr}}$$

18. The patient is on a medication drip infusing at 35 mL/hr. The label reads 400 mg in 500 mL D5W. The patient weighs 62 kg. How many mcg/kg/min is the patient receiving? Round to the nearest tenth.

$$62 \text{ kg}$$

$$400 \text{ mg} / 500 \text{ mL} = 0.8 \times 1,000 = 800$$

$$\frac{800 \text{ (mcg/mL)} \times 35 \text{ (mL/hr)}}{62 \text{ (kg)} \times 60 \text{ (min/hr)}} = \boxed{7.5 \text{ mcg/kg/min}}$$

19. The physician has ordered 1 gram IV of a medication over 30 minutes. Pharmacy has sent an IV bag labeled 1 gram in 50 mL D5W. The IV tubing delivers 15 gtt/mL. How many drops per minute (gtt/min) will the nurse deliver?

$$\frac{50 \text{ mL} \times 15 \text{ gtt/mL}}{30 \text{ min}} = \boxed{25 \text{ gtt/min}}$$

20. 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?

$$\frac{100 \text{ mL} \times 12 \text{ gtt/mL}}{60 \text{ min}} = \boxed{20 \text{ gtt/min}}$$