

IM 7 Math Module

Complete the required math problems and submit to Math drop box

Name Joel Castillo

1. Infuse 1 gram of a medication over 45 minutes. The drug is supplied as 1 gram/50mL. The drip factor is 15. How many gtt/min will you infuse?

$$1/3 \times 50 = 16.6 = 17 \text{ gtt/min}$$

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

$$1000/8 = 125 \text{ mL}$$

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?

$$250/3 = 83.3 \times 15 = 20.8 = 21 \text{ gtt/min}$$

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?

$$100 \times 60 / 60 = 100 \text{ gtt/min}$$

5. 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?

$$125 \times 15 = 31.3 = 31 \text{ gtt/min}$$

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?

$$(2/100) 75 = 1.5 \text{ mL}$$

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

$$1000/4 = 250 \text{ mL/hr}$$

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)

$$(5/20) 5 = 1.25 \text{ mL}$$

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?

$$(1/10) 2 = 0.2 \text{ mL}$$

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?

$$(100/8) 60 / 60 = 12.5 = 13 \text{ gtt/min}$$

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.

$$3 \text{ mcg} = (1420/79.45) / 60 \text{ } 79.45 \text{ kg} \text{ } 14.2 \text{ mg/hr} \text{ } 1420 \text{ mcg}$$

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.

$$500\text{mL}/250\text{mg} = 2\text{ mg/mL} \quad 4 \times 200\text{mcg/hr}$$

$$2 \times 4 \times 2 = 8.4 \quad \text{8 mL/hr} \quad 4.2\text{mg/hr}$$

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?

$$\left(\left(\frac{100}{250} \right) 12 \right) \times 1000 / 60 = 80\text{mcg/min}$$

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?

$$\left(\frac{250}{25000} \right) 500 = 5\text{ mL/hr}$$

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.

$$1.6\text{mg/mL} \quad 150\text{mcg} = 9180\text{mcg/hr}$$

$$9 / 1.6 = 5.6 \quad \text{6 mL/hr} \quad 9\text{mg}$$

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.

$$75 \times \frac{4}{1} \times 60 = 18000 / 1000 = 18 \text{ mL/hr} = 11.25 \text{ mg/hr} = 11.3\text{mg/hr}$$

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.

$$5 \left(\frac{250}{100} \right) = 13.5\text{ mL/hr}$$

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.

$$\left(\left(\frac{400}{500} \right) 35 \right) / 60 = 7.5\text{ mcg/kg/min}$$

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?

$$(100 \times 15) / 60 = 25 \text{ gtt/min}$$

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?

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