

IM 7 Math Module

Complete the required math problems and submit to Math drop box

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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?

$$(50 \times 15) / 45 = 16.67 = \mathbf{17 \text{ gtt/min}}$$

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

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

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?

$$(250 \times 15) / 180 = 20.83 = \mathbf{21 \text{ gtt/min}}$$

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?

$$(50 \times 60) / 30 = \mathbf{100 \text{ gtt/min}}$$

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?

$$500 / 1000 = 0.5; 0.5 \times 250 = 125$$

$$(125 \times 15) / 60 = 31.25 = \mathbf{31 \text{ gtt/min}}$$

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?

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

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

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

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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?

$$2/10 = 0.2 \text{ mL}$$

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?

$$(60 * 100) / 480 = 12.5 = 13 \text{ gtt/min}$$

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. 79.54 kg

$$(142/500) * 50 = 14.2 \text{ mg/hr} = 2.975 = 2.9 \text{ mcg/kg/min}$$

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.

$$(1 * 70 * 60) / 1000 = 4.2 \text{ mg/hr} \quad (4.2/250) * 500 = 8.4 = 8 \text{ mL/hr}$$

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?

$$(12/250) * 100 = 4.8 \text{ mg/hr} = 80 \text{ mcg/min}$$

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?

$$(500/25,000) * 250 = 5 \text{ mL/hr}$$

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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. **75kg**

$$(2 * 75 * 60) = 9000 \text{ mcg/hr} = 9 \text{ mg/hr} \quad (9/800) * 500 = 5.625 = \mathbf{5.6 \text{ mL/hr}}$$

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.

$$5.625 * 2 = 11.25 = \mathbf{11.3 \text{ mL/hr}}$$

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.

$$(5/100) * 250 = 12.5 = \mathbf{13 \text{ mL/hr}}$$

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.

$$(35/500) * 400 = 28 \text{ mg/hr} = 466.666 \text{ mcg/min} = 7.5268 = \mathbf{7.5 \text{ mcg/kg/min}}$$

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?

$$(50 * 15)/30 = \mathbf{25 \text{ gtt/min}}$$

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?

$$(100 * 12)/60 = \mathbf{20 \text{ gtt/min}}$$