

IM 7 Math Module

Complete the required math problems and submit to Math drop box
Name Kennedi Blount

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?

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

2. The physician writes an order to give 1000mL of intravenous fluid over 8hrs. How

many mL/hr will you infuse?

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

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?

$$\frac{250 \text{ mL} \times 15}{180} = \boxed{21 \text{ gtt/min}}$$

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?

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

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?

$$\frac{125 \times 15}{60} = \boxed{31 \text{ gtt/min}}$$

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?

$$\frac{50 \text{ mcg}}{\text{mL}} \quad 75 \text{ mcg} \quad \boxed{1.5 \text{ mL}}$$

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

pump?

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

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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)

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

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

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?

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

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.

$\frac{142\text{ mL/hr} \times 50\text{ mg}}{500\text{ mL}} = 14.2\text{ mg/hr} \rightarrow 14,200$
 $\frac{14,200\text{ mg/hr}}{175\text{ lbs}} = 80.857\text{ mg/lb/hr} \rightarrow 236.67$
 $\frac{236.67\text{ mg/lb/hr}}{2.2\text{ lb/kg}} = 107.577\text{ mg/kg/hr} \rightarrow 17.9295\text{ mg/kg/min} \rightarrow 17,929.5\text{ mcg/kg/min}$
 $\frac{17,929.5\text{ mcg/kg/min}}{60} = 298.825\text{ mcg/kg/min} \rightarrow 2.99\text{ mcg/kg/min} \rightarrow \boxed{3\text{ mcg/kg/min}}$

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.

$$\frac{70\text{kg} \times 1\text{mcg/kg/min} \times 60}{250\text{mg}} \times \frac{250\text{mg}}{500\text{mL}} = \boxed{8\text{ mL/hr}}$$

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?

$$\frac{12\text{ mL/hr}}{250\text{ mL}} \times \frac{100\text{ mg}}{100,000\text{ mcg}} \times 60 = \boxed{80\text{ mcg/min}}$$

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?

$\frac{500\text{ units/hr}}{25,000\text{ units}} \times \frac{250\text{ mL}}{100\text{ u/mL}} = \boxed{5\text{ mL/hr}}$

