

IM 7 Math Module

Complete the required math problems and check your answers.

Mcg/kg/min or Mcg/min

3
mcg/kg/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)

$50 \div 500 = 0.1 = 100 \text{ mcg}$ $100 \cdot 142 / 79.54 \cdot 60 = \frac{14200}{4772.4} = 2.97$

8.4
mL/hr

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)

$250 \div 500 = 0.5 = 500 \text{ mcg}$ $70 \cdot 1 \cdot 60 / 500 = 8.4$

80
mcg/min

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?

$100 \div 250 = 0.4 = 400 \text{ mcg}$ $400 \cdot 12 / 60 = 80$

5.0
mL/hr

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)

$800 \div 500 = 1.6 = 1600$ $75 \cdot 2 \cdot 60 / 1600 = 5.625$

3.8
mL/hr

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)

$4 \cdot 60 / 154 = 3.75 = 3.8$

0.192
mcg/min

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)

$50 \cdot 15 / 60 \cdot 60 = 750 / 3900 = 0.192$

Heparin/Insulin or mg/hr

5 mL/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?

$25000 \div 250 = 100$ $500 \div 100 = 5$

13 mL/hr

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.

$100 \div 250 = 0.4$ $5 \div 0.4 = 12.5$

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)

$4 \cdot 50 \cdot 90.90 = 18,180$

18L

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)

$4 \cdot 75 \cdot 68.18 = 20,454$

20L