Additional Math Practice 1

82 kg
× 60
4,920

1. A patient is to receive dobutamine at a rate of 10 mL/hr. The drug is labeled 250 mg/250 mL. The patient weighs 82 kg. How many mcg/kg/min are infusing?

$$10\,mL = 10\,mg = \frac{10,000\,mcg}{4920} = 2.03 = \boxed{2\,mcg/kg/min}$$

2. If norepinephrine is infusing at 13 mL/hr, what would the nurse expect the dose to be in mcg/min? The bag is labeled norepinephrine 4 mg/250 mL. The patient weighs 94 kg. Round to the nearest tenth.

$$\frac{4}{250} = 0.016\,mg/mL \times 13 = \begin{array}{r} 0.208 \\ \times\ 1000 \\ \hline 208 \end{array}$$

$$\frac{208}{60} = 3.46 = \boxed{3.5\,mcg/min}$$

3. A patient's blood pressure has decreased to 70/48 mmHg following a significant head injury. The primary healthcare provider writes an order to start a Dopamine infusion at 10 mcg/kg/min. Pharmacy sends a bag labeled Dopamine 400 mg/250 mL. The patient weighs 68 kg. What rate will the pump need to be set on to achieve the desired dose?

400
× 1000
400,000

$$\frac{400,000}{250} = 1,600\,mcg/mL \quad \begin{array}{r} 10 \\ \times 68 \\ \hline 680 \end{array} \quad \frac{680}{1600} = 0.425 \times 60 = \boxed{25.5\,mL/hr}$$

4. The nurse receives an order to titrate propofol for sedation. The patient is currently receiving 8 mcg/kg/min. Determine the rate that is currently infusing in mL/hr. The bottled is labeled propofol 1 GM/100mL. The patient weighs 90 kg.

1g = 1000 mg
$$1,000 \times 1,000 = \frac{1,000,000}{100} = 10,000\,mcg/mL$$

$$90 \times 8 = 720$$

$$\frac{720}{10,000} \times 60 = 0.072 = \boxed{4.3\,mL/hr}$$

5. The nurse receives an order to initiate a Cordarone infusion at 0.5 mg/min. The drug is labeled 450 mg/250mL. How many mL/hr should the pump be set on to deliver the correct dose?

$$\frac{0.5}{450} \times 250 = 0.277 \times 60 = 16.66 = \boxed{16.7 \text{ mL/hr}}$$

6. Nicardipine is to be given at a rate of 5 mg/hr. The drug is supplied as 50 mg/250 mL. How many mL/hr should the pump be set on to deliver the correct dose?

$$\frac{5}{50} \times 250 = \boxed{25 \text{ mL/hr}}$$

7. Heparin is ordered at 800 units/hr. The drug is supplied as 25000 units/500 mL. What rate should the pump be set at?

$$\frac{800}{25000} \times 500 = \boxed{16 \text{ mL/hr}}$$

8. The patient is to receive 10 mcg/min of norepinephrine. The drug is supplied as 16 mg/250 mL. The patient weighs 83 kg. How many mL/hr will you place the pump on?

$$16 \times 1000 = 16,000 \text{ mg}$$

$$\frac{10}{16,000} \times 250 = 0.156 \times 60 = 9.375 = \boxed{9.4 \text{ mL/hr}}$$

9. The patient is to receive Rocephin 1 GM over 90 minutes. The drug is supplied as 1 GM/100 mL. The drop factor is 20. How many gtt/min should be delivered?

$$\frac{1000}{1000} \times 100 = 100 \times 20 = 2,000$$

$$\frac{2,000}{90} = 22.22 = \boxed{22 \text{ gtt/min}}$$

10. The patient is to receive Cipro 400 mg IV over 1 hour. The bag of Cipro comes from the pharmacy labeled Cipro 400 mg in 100 mL D5W. The IV tubing delivers 12 gtt/mL.

$$\frac{400}{400} \times 100 = 100 \times 12 = 1,200$$

$$\frac{1,200}{60} = \boxed{20 \text{ gtt/min}}$$