Additional Math Practice 1

mcg/kg/min
con x rate
wt x 60

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?

250/250 : 1000 $\quad \frac{1000 \times 10}{82 \times 60} : \frac{10,000}{4920}$: 2 mcg/kg/min

mcg/kg/min
con x rate
60

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.

4/250 : 0.016 mg · 16

$\frac{16 \times 13}{60} : \frac{208}{60}$: 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?

mL/min
rate x 60 x wt
con

$\frac{10 \times 60 \times 68}{1600}$ 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.

mL/hr
rate x 60 x wt
con

$\frac{8 \times 60 \times 90}{10,000}$: 4.3

1000/100 : 10,000

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?

mL/hr : $\frac{\text{rate} \times 60 \times \text{wt}}{\text{con}}$

$\frac{0.5 \times 60}{1800} : \frac{30,000}{1800}$: 16.7

450/250 : 1.800

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?

$\frac{5}{50} \times 250 : 25$ 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?

$\frac{d}{h} \times V$

$\frac{800}{25000} \times 500 : 16$ 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?

$\frac{wt \times rate \times 60}{conc}$

$\frac{10 \times 60}{64} : 9.4$

16/250 : 64

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?

$\frac{volume \times gtts}{time}$

$\frac{100 \times 20}{90} : 22$ gtts/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. How many drops per minute (gtt/mL) will you deliver?

$\frac{100 \times 12}{60} : 20$ gtts/mL