1. A 65 kg patient is to receive 6mcg/kg/min of dopamine. The IV bag contains 400 mg of dopamine in 250mL of IV fluid. At what rate should the nurse set the IV pump.? (Round the answer to the nearest tenth. Use a leading zero if it applies. Do not use trailing zero. Enter numbers only.)

$$\frac{400mg}{250mL} = 1.6mg/mL \times 1000mcg = 1600 \, mcg/mL \; conc.$$

$$\frac{65kg \times 6mcg/kg/min \times 60min/hr}{1600mcg/mL} = \frac{23,400}{1600} = \frac{14.625}{\boxed{14.6 \, mL/hr}}$$

2. A patient is to receive 0.4 mcg/kg/min. The IV bag contains 50 mg nitroprusside in 250 mL fluid. The patient weighs 80 kg. How many mL per hour should the nurse set the IV pump? (Round the answer to the nearest tenth. Use a leading zero if it applies. Do not use trailing zero. Enter numbers only.)

$$\frac{50mg}{250mL} = 0.2mg/mL \times 1000mcg = 200 \, mcg/mL \; conc.$$

$$\frac{80kg \times 0.4mcg/kg/min \times 60min/hr}{200mcg/mL} = \frac{1920}{200} = \boxed{9.6 \, mL/hr}$$

3. 70 kg patient has dopamine (400 mg in 250 mL) running at 26 mL/hour. How many mcg/kg/min is the patient receiving? (Round the answer to the nearest tenth. Use a leading zero if it applies. Do not use a trailing zero. Enter numbers only.)

$$\frac{400mg}{250mL} = 1.6mg/mL \times 1000mcg = 1600 \, mcg/mL \; conc.$$

$$\frac{1600mcg/mL \times 26mL/hr}{70kg \times 60min/hr} = \frac{41,600}{4200} = \frac{9.90}{\boxed{9.9 \, mcg/kg/min}}$$

4. Your patient has dobutamine ordered at 15 mcg/kg/min. The 250 mL IV bag contains 500 mg of dobutamine. The patient weighs 75 kg. What rate should the nurse set the IV pump? (Round the answer to the nearest tenth. Use a leading zero if it applies. Do not use a trailing zero. Enter numbers only.)

$$\frac{500mg}{250mL} = 2mg/mL \times 1000mcg = 2000 \, mcg/mL$$

$$\frac{75kg \times 15mcg/kg/min \times 60min/hr}{2000mcg/mL} = \frac{67,500}{2000} = \frac{33.75}{\boxed{33.8 \, mL/hr}}$$

5. A patient weighing 75 kg has a dobutamine IV drip running. The IV rate is 30 mL/hour. The IV bag has 50 mg of dobutamine in 250 mL of fluid. How many mcg/kg/min is your patient receiving? (Round to the nearest whole number. tenth Use a leading zero if it applies. Do not use a trailing zero. Enter numbers only.)

$$\frac{50mg}{250mL} = 0.2mg/mL \times 1000mcg = 200 \, mcg/mL$$

$$\frac{200mcg/mL \times 30mL/hr}{75kg \times 60min/hr} = \frac{1000}{4500} = \frac{1.33}{\boxed{1.3 \, mcg/kg/min}}$$

6. A nurse is to administer ceftriaxone 1 gram over 30 minutes. The drug is supplied as 1gram/50ml. The tubing drip factor is 15 gtt/mL. How many gtt/min should the nurse infuse? (Round the answer to the nearest tenth. Use a leading zero if it applies. Do not use a trailing zero. Enter numbers only.)

$$\frac{50mL \times 15\,gtt/mL}{30\,min.} = \frac{750}{30} = \boxed{25\,gtt/min}$$

7. A nurse is to administer ceftriaxone 1 gram over 45 minutes via the IV pump. The drug is supplied as 1gram/50ml. At what rate should the nurse set the IV pump? (Round to the nearest whole number. Use a leading zero if it applies. Do not use a trailing zero. Enter numbers only.)

$$\frac{50\,mL}{0.75} = 66.66 = \boxed{67\,mL/hr}$$

8. A nurse is caring for a patient who is to receive 2/kg/dose IV of a medication twice per day. The patient weighs 180 lbs. How many mg should the nurse administer per dose? (Round the answer to the nearest whole number. Enter number only.)

$$180\,lbs \div 2.2\,kg = 81.8\,Kg \times 2\,mg = 163.6 = \boxed{164\,mg/dose}$$

9. What is the concentration of 50 mg in 250 mL of fluid?

$$\frac{50\,mg}{250\,mL} = \boxed{0.2\,mg/mL}$$

10. How many mcg are in 60 mg?

$$60\,mg \times 1000\,mcg = \boxed{60,000\,mcg}$$