

Dosage Calculation Practice

1. The cardiac patient is to receive Cardizem 5 mg IVP. The vial contains 10 mg/2 ml. How many ml will you give?
2. The patient is to take Aspirin gr. X. The bottle contains Aspirin 300 mg tablets. How many tablets should he take?
3. Digoxin 125 mcg is ordered IVP every a.m. The vial contains 0.5 mg in 2 ml. How many ml will you give?
4. The pre-op patient is ordered Atropine gr. 1/150 IM. The vial contains Atropine 0.4 mg in 1 ml. How much will you give?
5. The patient is to receive Heparin 1500 units/hr by IV infusion. The IV contains 25,000 units of Heparin in 250 ml of D5W. At what rate should you set the IV pump (ml/hr)?
6. The IV with Nitroglycerin is infusing at 6 ml/hr. The concentration of the IV is 50 mg in 250 ml of D5W. How many mg/hr is the patient receiving?
7. The patient is ordered an IV of 1000 ml of Normal Saline over 8 hours. At what rate would you set the IV pump (ml/hr)?
How many drops per minute would you set the gravity IV tubing with a drip factor of 15 drops/ml?
If the current IV bag was started at 1300, what time would you hang the next bag?
8. The patient with an infection is to receive an IVPB of Ampicillin 500 mg in 50 ml over 30 minutes. At what rate would you set the pump?
9. An IVPB of Vancomycin 1 gram in 250 ml is to infuse over 90 minutes. At what rate should the pump be set?
10. The patient is ordered Fortaz 250 mg IM. The vial contains 500 mg powder with directions to add 1.5 ml of sterile water for a total volume of 1.8 ml. How many ml will you administer?
11. The physician ordered an IV of Dobutamine at 5 mcg/Kg/min. The patient weighs 198 lbs. The IV solution is 500 mg Dobutamine in 250 ml D5W. How many ml/hr should the pump be set?

Answers to Dosage Calculation Practice Problems

The answers and one way of calculating the practice problems are provided. Remember, *work* the problems *first*, then check your answers.

1. Answer: 1 ml. $10 \text{ mg} : 2 \text{ ml} = 5 \text{ mg} : x \text{ ml}$
 $10x = 10$
 $x = 1$
2. Answer: 2 tablets $1 \text{ grain} = 60 \text{ mg}$ $300 \text{ mg} : 1 \text{ tab} = 600 \text{ mg} : x \text{ tabs}$
 $10 \text{ grains} = 600 \text{ mg}$
3. Answer: 0.5 ml $1 \text{ mg} = 1000 \text{ mcg}$ $0.5 \text{ mg} : 2 \text{ ml} = .125 \text{ mg} : x \text{ ml}$
4. Answer: 1 ml $1 \text{ gr} = 60 \text{ mg}$ $0.4 \text{ mg} : 1 \text{ ml} = 0.4 \text{ mg} : x \text{ ml}$
 $1/150 \text{ gr} = .4 \text{ mg}$
5. Answer: 15 ml/hr $25,000 \text{ units} : 250 \text{ ml} = 1500 \text{ units} : x \text{ ml}$
Note: remember a pump setting is always ml / hour
6. Answer: 1.2 mg/hr $50 \text{ mg} : 250 \text{ ml} = x \text{ mg} : 6 \text{ ml}$
7. Answer: 125 ml/hr
31 gtts/min
2100 $1000 \text{ ml} \div 8 \text{ hrs}$
 $125 \text{ ml} \div 60 \text{ min} \times 15 \text{ gtts/ml}$
 $1300 \div 8 \text{ hrs}$
8. Answer: 100 ml/hr $50 \text{ ml} : 30 \text{ min} = x \text{ ml} : 60 \text{ min}$
9. Answer: 167 ml/hr $250 \text{ ml} : 90 \text{ min} = x \text{ ml} : 60 \text{ min}$
10. Answer: 0.9 ml $500 \text{ mg} : 1.8 \text{ ml} = 250 \text{ mg} : x \text{ ml}$
11. Answer: 14 ml/hr $198 \text{ lbs} \div 2.2 \text{ lbs/Kg} = 90 \text{ Kg}$
 $90 \text{ Kg} \times 5 \text{ mcg/min} = 4500 \text{ mg/min}$
 $4500 \text{ mcg} \div 1000 \text{ mcg/mg} = 0.45 \text{ mg/min}$
 $500 \text{ mg} : 250 \text{ ml} = 0.45 \text{ mg} : x \text{ ml}$
 $x = .0225 \text{ ml/min}$
 $.0225 \text{ ml/min} \times 60 \text{ min in hr} = 13.5 = 14 \text{ ml/hr}$

Refer to the guidelines for rounding dosage calculations included here. These are the same throughout the Nursing Program.