SELF-TEST 1 Infusion Rates

Solve the following problems. Answers appear at the end of this chapter.

$\frac{800}{25,000} \times 250$

1. Order: heparin sodium 800 units/hour IV
   Supply: infusion pump, standard solution of 25,000 units in 250 mL D5W
   a. What is the rate? 8 mL/h
   b. How many hours will the IV run? 31.25 hours

2. Order: Zovirax (acyclovir) 500 mg in 100 mL D5W IV over 1 hour
   Supply: infusion pump, Zovirax (acyclovir) 500 mg in 100 mL D5W
   What is the rate? 100 mL/h

3. Order: Amicar (aminocaproic acid) 24 g in 1000 mL D5W over 24 hour IV
   Supply: infusion pump, vials of Amicar (aminocaproic acid) labeled 5 g per 20 mL
   $24g \ \frac{20mL}{5g}$
   a. How much Amicar do you add to the IV? 96 mL
   b. What is the rate? 42 mL/h

4. Order: Cardizem (diltiazem) 125 mg in 100 mL D5W at 10 mg/hour IV
   Supply: infusion pump, vial of Cardizem (diltiazem) labeled 5 mg/mL
   $125mg \ \frac{1mL}{5mg}$
   a. How much diltiazem do you add to the bag? 25 mL
   b. What is the rate? 8 mL/h

5. Order: Lasix (furosemide) 100 mg in 100 mL D5W; infuse 4 mg/hour
   Supply: infusion pump, vial of Lasix (furosemide) labeled 10 mg/mL
   a. How much furosemide do you add to the IV bag? 10 mL
   b. What is the rate? 4 mL/h

6. Order: regular insulin 15 units/hour IV
   Supply: infusion pump, standard solution of 125 units in 250 mL NS
   $15u \ \frac{250mL}{125u}$
   a. What is the drip rate? 30 mL/h
   b. How many hours will this IV run? 8.3 hours

7. Order: nitroglycerin 50 mg in 250 mL D5W over 24 hour via infusion pump
   What is the drip rate? 10 mL/h

8. Order: heparin 1200 units/hour IV
   Supply: infusion pump, standard solution of 25,000 units in 500 mL D5W
   $12000u \ \frac{500mL}{25,000}$
   a. What is the rate? 240 mL/h
   b. How many hours will the IV run? 2.08 hours

9. Order: regular insulin 23 units/hour IV
   Supply: infusion pump, standard solution of 250 units in 250 mL NS
   $23u \ \frac{250mL}{250units}$
   a. What is the rate? 23 mL/h
   b. How many hours will the IV run? 10.9 hours

10. Order: Streptase (streptokinase) 100,000 international units/hour for 24 hour IV
    Supply: infusion pump, standard solution of 750,000 international units in 250 mL NS
    What is the rate? 33 mL/h

mg/minute—Calculation of Rate

The order will indicate the amount of drug added to IV fluid and also the amount of drug to administer. These medications are administered through an IV infusion pump in milliliters per hour.

Note: The dimensional analysis method will combine all of the calculation steps into one equation.