

Section 1.1 Rates and Proportions - in class exercises

1. (Example 1.1.2) A can of a particular brand of motor oil costs \$4.50 for 32 ounces. We would like to determine the cost per ounce, stated mathematically and literally.
2. (Example 1.1.3) Find the number of degrees in Fahrenheit that there are for every degree Celsius.
3. (Exercise 3 page 7) Suppose that a 185 lb patient receives 30 mg of a particular medication. Find the rate which gives the number of milligrams of medication the patient is receiving per pound. Find the rate that gives the number of pounds per milligrams of medication.
4. Assume that a patient weighing 243 lb receives medication intravenously at a rate of 800 mg per hour. What is the rate that gives the number of milligrams of medication per hour per pound?
5. (Exercise 8 page 7) Suppose a school has 1548 students and 43 teachers. If the student to teacher rate is maintained, how many teachers would there be at a school with 1200 students?
6. (Exercise 10 page 7) Assume that 4 gallons of paint can cover 750 square feet of surface. How many square feet of surface would be covered by 7.4 gallons of paint?
7. (Example 1.1.9) A children's acetaminophen pain reliever is to be given in dosages of 2 tablets per 24 pounds. How many tablets should be given to a child weighing 65 pounds?
8. (Exercise 14 page 7) Assume that a patient weighing 243 lb receives medication intravenously at 80 mg every 6 minutes. If the medication per minute per pound rate is preserved, what would the weight of a patient be who receives 90 mg every 8 minutes?
9. (Exercise 18 page 7) A car accelerates from rest to a speed of 1.6 miles per minute in 0.25 minutes. In how much time can the car accelerate to a speed of 1.2 miles per minute?