

## Section 1.2 Unit Conversion - in class exercises

1. (Exercise 2 page 20) Determine the number of centimeters in 7.34 inches.
2. Determine the number of feet in 15 inches.
3. Determine the number of feet in 20 miles.
4. (Exercise 4 page 20) How many pounds of force are there in 17.3 N ?
5. Determine the number of meters there are in 0.4 miles.
6. (Exercise 9 page 20) Convert  $75 \text{ ft} \cdot \text{lb}$  to Joules.
7. (Example 1.2.6) A pharmacist receives a prescription for a patient which calls for 250 milligrams (mg) of a given medication per day. The bottle for the medication uses the grains (gr) units. How many grains are there in 250 milligrams.
8. Find the number of meters in 250 yards.
9. (Exercise 10 page 20) Convert 75 miles per hour to meters per second.
10. (Exercise 12 page 20) Suppose a given medication is given to patients at the rate of 375 mg per kilogram of patient weight. Give the equivalent rate in ounces per pound.
11. (Exercise 14 page 20) A cord of wood is 4 ft by 4 ft by 8 ft. How many cubic meters is this?
12. (Exercise 18 page 20) If the price of gas is \$4.25 per gallon, give the price per liter.
13. (Example 1.2.9) If gas costs \$3.75 per gallon, how many liters of gas can be purchased for \$10?
14. (Example 1.2.10) A certain medication is to be given at 3 teaspoons per 80 pounds. If we desire the dosage per pound ratio to be maintained, how many milliliters should a 205 lb patient take?
15. (Exercise 20 page 21) Suppose a car drives 400 mi in 6 h. At the same rate of travel, how many kilometers can the car travel in 100 minutes?
16. (Example 1.2.12) If a given medication for animals is to be given in doses of 30 mL per 100 pounds, how many ounces should be given to an animal weighing 50 kilograms?
17. (Exercises 22 page 21) An employee works 5 days per week, and 7 hours per day, at a rate of \$18.75 per hour. In how many weeks will the employee earn \$27,500?
18. (Exercises 23 page 21) A doctor orders that a patient receives medication known as mepivacaine intravenously at 5 g per 260 mL of solution at 6 mg per minute. At what rate of flow ( in mL per hour) should this medication be administered?
19. (Exercise 24 page 21) Suppose a patient weighs 130 lb and has a medication known as dopamine prescribed at 8  $\mu\text{g}$  (micrograms) per kilogram of weight per minute. At what rate (in mL per hour) should the medication be administered if the medication is in solution form with 400 mg of dopamine per 250 mL of solution?