

**CHEM 0094****DIMENSIONAL ANALYSIS PRACTICE**

1. If apples cost 30 cents per dozen, how many apples can be bought for 50 cents? (*Ans.* 20 apples)
2. Find the number of feet (ft) in 1.50 miles (1 mile = 5280 ft). (*Ans.*  $7.92 \times 10^3$  ft)
3. Find the number of gallons in 5.00 cubic yards (yd<sup>3</sup>) ( $231 \text{ in}^3 = 1$  gallon; 3 ft = 1 yd; 12 in = 1 ft) (*Ans.*  $1.01 \times 10^3$  gallons)
4. If a runner does the 100 yd dash in 10.0 seconds, what is the runner's speed in miles per hour? (3 ft = 1 yd; 1 mile = 5280 ft) (*Ans.* 20.4 miles/hour)
5. Determine the number of seconds in the month of July. (*Ans.*  $2.6784 \times 10^6$  seconds)
6. A satellite is orbiting the earth at a speed of 30,000. kilometres per hour. How many seconds does it take to travel 100. km? (*Ans.* 12.0 seconds)
7. How many times does the hour hand of a clock go around in two weeks? (*Ans.* 336 times)
8. How many metres are there in 7.60 ft? (2.54 cm = 1 in; 12 in = 1 ft) (*Ans.* 2.32 metres)
9. How many cubic inches (in<sup>3</sup>) are there in a box 9.00 cm long, 6.00 cm wide, and 4.00 cm high? (2.54 cm = 1 in) (*Ans.* 13.2 in<sup>3</sup>)
10. Find the mass in kilograms of an object that weighs 13.4 ounces. (1 lb = 16 ounces; 1 kg = 2.20 lb) (*Ans.* 0.381 kg)