

Problem set - Metric measurements - 2

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Use dimensional analysis to answer questions 1 through 11. Show all of your work. You may use a calculator and notes.

There are ten millimeters in one centimeter, and one hundred centimeters in one meter. One kilometer is one thousand meters.

1. How many millimeters is 12cm?
  
  
  
  
  
  
  
  
  
  
2. How many meters is 800cm?
  
  
  
  
  
  
  
  
  
  
3. How many centimeters is 2.4m?
  
  
  
  
  
  
  
  
  
  
4. How many meters is 21km?
  
  
  
  
  
  
  
  
  
  
5. How many millimeters is three meters?
  
  
  
  
  
  
  
  
  
  
6. How many centimeters is 0.12km?

One liter is 1000 milliliters. Sixty seconds is one minute. Sixty minutes is one hour.

7. How many milliliters is a half liter?
8. How many seconds is twenty-two minutes?
9. How long does it take a pump with a rated capacity of 0.4 liters per minute to empty a 30l tank?
10. How many kilometers per hour is 2.5 meters per second?
11. How many meters per second is twelve kilometers per hour?

Temperatures in Celsius and Fahrenheit are related by the formulas

$$C = \frac{5}{9}(F - 32) \qquad \text{and} \qquad F = \frac{9}{5}C + 32$$

12. If the temperature is 52°F, what is the temperature in Celsius?
13. If the temperature is 14°C, what is the temperature in Fahrenheit?