

Section 2.2 Scientific Notation and Dimensional Analysis*In your textbook, read about scientific notation.*

1. Circle the figures that are written in scientific notation.

1.61×10^2

$1.61 \times 10 \times 10$

1.61×100

161 km

$1.627\ 62 \times 10^{-27}$ kg

$9.109\ 39 \times 10^{-31}$ kg

2.8×10^{-8}

1 380 000

2. Change the following data into scientific notation.

a. 5 000 000 km _____

c. 0.000 421 g _____

b. 8 394 000 000 s _____

d. 0.03 cm _____

*In your textbook, read about dimensional analysis.***Answer the following questions.**

3. What is a conversion factor?

4. What is dimensional analysis?

Complete the following dimensional analysis problems.

5. Convert 50 kilograms into grams.

$50 \text{ _____} \times 1000 \text{ _____} / 1 \text{ _____} = 50\ 000 \text{ _____}$

6. Convert 5 meters into centimeters.

$5 \text{ _____} \times 100 \text{ _____} / 1 \text{ _____} = 500 \text{ _____}$

7. Convert 5 liters into kiloliters.

$5 \text{ _____} \times 1 \text{ _____} / 1000 \text{ _____} = 0.0005 \text{ _____}$

8. Convert 5 centimeters into meters.

$5 \text{ _____} \times 1 \text{ _____} / 100 \text{ _____} = 0.05 \text{ _____}$

9. Convert 55 kilometers per hour into meters per second. Use the conversion factor 1 km = 1000 m.

$$55 \text{ _____} / \text{_____} \times 1000 \text{ _____} / 1 \text{ _____} \times 1 \text{ _____} / 60 \text{ _____}$$

$$\times 1 \text{ _____} / 60 \text{ _____} = 15 \text{ _____}$$