

1. A student measures the width of a wire to be 2.8 mm. How many nanometers is this?

[1] _____

2. How many significant digits are there in each of the following measurements?

- a) 4460 kg
- b) 911.29 cm
- c) 0.6040 g

[2] _____

3. A student determines the density of iron to be 8.59 g/cm^3 . The correct value is 7.87 g/cm^3 . Find the percent error in her measurement.

[3] _____

4. Convert each of the following quantities.

- a) 120 joules to calories
- b) 4540 Calories to calories
- c) 1.60 Calories to joules

[4] _____

5. The mass of an object is determined to be 38.9 kg. How many μg is this?

[5] _____

6. Do the following calculations and express the answer in the correct number of significant digits.

- a) $15.6 \text{ mL} + 29 \text{ mL} + 28.66 \text{ mL}$
- b) $0.82 \text{ cm} \times 36.8 \text{ cm}$

[6] _____

7. Solve the following equation for the variable "c." Express your answer with the correct number of significant figures.

$$\frac{1.1}{c} = \frac{0.850}{750}$$

[7] _____

8. Perform the following operations:

a)
$$\frac{(8.45 \times 10^6 \text{ m})(4.60 \times 10^{-8} \text{ m})}{8.86 \times 10^{-9} \text{ m}}$$

b) $6.95 \times 10^{-3} \text{ g} + 3.01 \times 10^{-4} \text{ g}$

[8] _____

9. Perform the following calculations and express your answer with the correct number of significant digits and in scientific notation.

a) $0.00774 \text{ km} + 0.00035 \text{ km}$

b) $177 \text{ L/h} \times 1800 \text{ h}$

[9] _____