Quiz 1
USE PROPER SIG. FIGS. & SHOW ALL WORK

1) The side of a cube is 2.90 cm. The mass of the same cube is 615.0 g. What are the volume and density of the block?

\[ \text{Vol} = s^3 \]
\[ \text{Vol} = 2.90 \text{ cm}^3 = 24.389 \text{ cm}^3 = \boxed{24.4 \text{ cm}^3} \]
\[ d = \frac{\text{mass}}{\text{vol}} = \frac{615.0 \text{ g}}{24.389 \text{ cm}^3} = \boxed{25.2 \text{ g/cm}^3} \]

2) Perform the following mathematical operations, and express each result to the correct number of sig. figs.

a. \[ \frac{93.5 + 4.1 + 2.8 + 3.175}{8} = \frac{103.575}{8} = 12.946875 \]
   \[ \approx 12.9 \text{ (1 sig fig)} \]

b. \[ \frac{(6.6262 \times 10^{-2})(2.998 \times 10^3)}{2.54 \times 10^{-3}} = 7.82 \times 10^4 = \frac{1.986534176 \times 10^8}{2.59 \times 10^{-9}} \]

3) Give an example of the following:

a. Physical change =

b. Chemical change =

c. Physical separation method =