

## Significant Figures

Rules:

1. Determination of number of significant figures.
  - a. Zeroes within a number are always significant

Ex/

1023 has 4 significant figures

10.01 has 4 significant figures

- b. Numbers to show precision are always significant.

Ex/

2.0 has 2 significant figures

5.0000 has 5 significant figures

- c. Place holder zeroes are not significant.

Ex/

1,000,000,000 has 1 significant figure

105,000 has 3 significant figures

100.0 has 4 significant figures

0.0053 has 2 significant figures

2. Changing units – Number of Significant figure remains the same.

Ex/

100.5 mm = 10.05 cm = 0.1005 m (each has 4 significant figure)

3. Adding or subtracting – Use least decimal of least precise number. *A number used in a calculation can never be more precise than the least precise measurement.*

Ex/

10.01 cm + 352.2 cm 0.0062 cm = 362.2162 = 362.2 cm

4. Multiplying and dividing – Use least decimal of least precise number. *A number used in a calculation can never be more precise than the least precise measurement.*

Ex/

(3.17 cm) x (63.52 cm) = 201.3584 cm<sup>2</sup> = 201 cm<sup>2</sup>