

Significant Figures (Part 1)

1. **Significant figures** are the relevant digits in an integer or a decimal number which has been rounded up to a value according to a degree of accuracy.

2. In rounding off positive numbers to a given number of significant figures, the significance of zero is shown as below.

(a) All non-zero digits in a number are significant figures (s. f.).

Example:

(i) 568 (3 s. f.)

(ii) 36.97 (4 s. f.)

(b) All zeroes between non-zero digits are significant.

Example:

(i) 7001 (4 s. f.)

(ii) 3.04 (4 s. f.)

(iii) 22.054 (4 s. f.)

(c) All zeroes that lie on the right of a non-zero digit in a decimal are significant.

Example:

(i) 0.70 (2 s. f.)

(ii) 4.500 (4 s. f.)

(iii) 3.00 (3 s. f.)

(d) Zeroes that lie on the left of a non-zero digit in a decimal are not significant.

Example:

(i) 0.05 (1 s. f.)

(ii) 0.0040 (2 s. f.)

(iii) 0.07040 (4 s. f.)

(e) Zeroes at the end of a whole number are to be considered as non significant unless stated otherwise.

Example

(i) 40 (1 s. f.)

(ii) 3670 (3 s. f.)

(iii) 704200 (4 s. f.)

Example 1:

Round off the following numbers correct to three significant figures.

(a) 246 = 246 (3 s. f.)

(b) 2463 = 2460 (3 s. f.)

(c) 24632 = 24600 (3 s. f.)

(d) 0.00745 = 0.00745 (3 s. f.)

(e) 0.007453 = 0.00745 (3 s. f.)

(f) 0.007455 = 0.00746 (3 s. f.)

(g) 0.007403 = 0.00740 (3 s. f.)