Significant Figures

Significant Figure Rules

Significant figures in a number include:

- Non-zero numbers

  127 has three significant figures; *88.71* has four.

- Zeros in-between non-zero numbers

  88,001 has five significant figures.

- Trailing zeros in a number containing a decimal point

  73.900 has five significant figures
  .0024 has two significant figures
  100. has three significant figures
  100 has one significant figures (note the lack of a decimal point)

Significant figures in a number do *not* include:

- Leading zeros

  .00127 has three significant figures.

"Infinite" Sig Figs

Certain numbers are not included in significant figure calculations; you may consider these to have infinite significant figures:

- *Numbers of items*

  If you have 13 banana slugs, the number 13 has ∞ sig figs.

- *Definitions*

  One foot is defined to be 12 inches; the 12 has infinite significant figures.

You should ignore these numbers when figuring the significant figures in the result of a multiplication or division.

Arithmetic with Significant Figures

How many significant figures should be retained in the result of adding, subtracting, multiplying, or dividing numbers?

Multiplication & Division

The result should have the same number of significant figures as the least number of figures among the original numbers.

88.73 × 12.1 = 1,070 (Not 1,073.633)

Addition & Subtraction

The result should have the same number of decimal places as the least number of places among the original numbers.

27.801 + 87.3 = 115.1

Note that this means the number of significant figures will not necessarily have any relationship to the significant figures of the original numbers.