Rules for Working with Significant Figures:

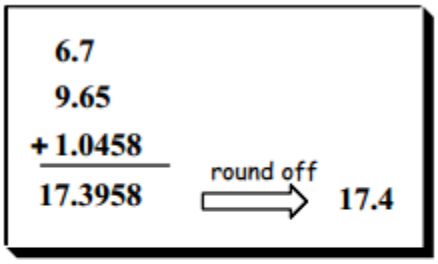
1. Leading zeros are **not** significant.
   Zeros between non-zero digits are **always** significant.
   Trailing zeros after the decimal point **are significant digits**.
   Hint: Change the number to scientific notation. It is easier to see.
2. **Addition or Subtraction:**
   The number of digits in the answer contains the same number of decimal places as the least **precise** number.
3. **Multiplication or Division:**
   The answer contains the **same number** of digits as the **least precise** number.

EXAMPLES:

Example	Number of Significant Figures	Scientific Notation	
0.00447	3	4.47×10^{-3}	Leading zeros are not significant.
8.604	4	$8.604 (\times 10^{0})$	Imbedded zeros are always significant.
700.0	4	7.000×10^{2}	Trailing zeros are significant with decimal.
200	1	1×10^{2}	

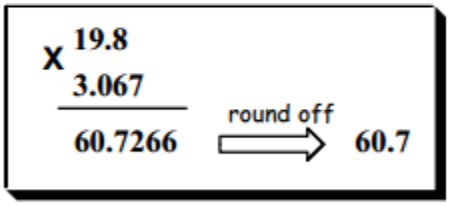
EXAMPLES

Addition



A calculator gives the answer as 17.3958, but the least precise value has only one decimal place past the zero (6.7). The answer is rounded off to this level of precision, the first place past the decimal.

Multiplication



Because one value has only 3 sig figs (19.8), the answer must be rounded off to the same level of precision, to 3 significant figures.

Addition/subtraction- **number of decimal places** determines number of sig figs in answer.

Multiplication/division- **least number of sig figs** determines number of sig figs in answer.