

1.8 Significant Digits

Significant digits - digits used - excludes zeros at the beginning of a decimal and the end of an integer.

- Rules:
1. All nonzero digits are significant.
 2. All zeros between significant digits are significant.
 3. All zeros at the end of a decimal are significant.
 4. Zeros that precede the 1st nonzero digit in a decimal are NOT significant.

Examples	Number of Significant Digits
<u>265</u>	3
<u>35</u> ,000	2
<u>2405</u>	4
0.00 <u>572</u>	3
<u>3.460</u>	4
0.0 <u>904</u>	3
<u>2.007</u>	4
<u>2.70</u>	3
<u>2.700</u>	2
<u>52,000</u>	2
2.5×10^6	2
<u>2500000</u>	2

Example: a. Round each number to three significant digits.
b. Write the result in scientific notation.

1. 0.003512
a) 0.00351
b) 3.51×10^{-3}
2. 27,084,000
a) 27,100,000
b) 2.71×10^7
3. 347.8
a) 348
b) 3.48×10^2
4. 32.073006
a) 32.1
b) 3.21×10^1
5. 300,544
a) 301,000
b) 3.01×10^5
6. 0.030405
a) 0.0304
b) 3.04×10^{-2}

HOMEWORK

Worksheet HW 1.8 - Significant Digits