

Significant Digits Worksheet

Remember These Rules:

1. *Digits from 1-9 are always significant.*
2. *Zeros between two other significant digits are always significant*
3. *One or more additional zeros to the right of both the decimal place and another significant digit are significant.*
4. *Zeros used solely for spacing the decimal point (placeholders) are not significant.*

Identify the number of significant digits show in each of the following examples.

- | | | | |
|--------------|-------|----------------|-------|
| (1.) 400 | _____ | (10.) 450.0 | _____ |
| (2.) 200.0 | _____ | (11.) 350 | _____ |
| (3.) 0.0001 | _____ | (12.) 44578 | _____ |
| (4.) 218 | _____ | (13.) 305 | _____ |
| (5.) 320 | _____ | (14.) 0.006200 | _____ |
| (6.) 0.00530 | _____ | (15.) 565.05 | _____ |
| (7.) 22568 | _____ | (16.) 5500 | _____ |
| (8.) 4755.50 | _____ | (17.) 74.00 | _____ |
| (9.) 7000 | _____ | (18.) 7040.0 | _____ |

Adding and Subtracting with Significant Digits

RULE: When adding or subtracting, your answer must show as many decimal places as the measurement having the fewest number of decimal places.

Perform the following calculations and round according to the rule above.

(19.) $2.25 + 6 =$ _____

(20.) $0.04 + 2.7 =$ _____

(21.) $18.640 + 670.445 =$ _____

(22.) $0.70 - 0.1 =$ _____

(23.) $640 - 627.03 =$ _____

(24.) $12.09 - 6.7 =$ _____

(25.) $3.458 + 53.252 + 0.601 =$ _____

(26.) $74.160 - 4.8 - 0.470 =$ _____

(27.) $7000.40 + 6.2 + 6.32 =$ _____

(28.) $6.790 - 2 =$ _____

(29.) $6.790 - 2.5 =$ _____

(30.) $3.001 + 2.151 =$ _____

Part I. Change the following numbers to proper scientific notation

(31.) 65.7

(32.) 0.00545

(33.) 22450000

Part II. Change the following numbers to standard notation

(34.) 8.85×10^4

(35.) 1.847×10^2

(36.) 3.400×10^{-3}

Significant Digits & Notation

Change the following numbers to proper scientific notation or standard notation.

(1.) 65.7 _____

(2.) 0.00545 _____

(3.) 8.85×10^4 _____

(4.) 1.847×10^2 _____

(5.) 22 450.000 _____

(6.) 3.400×10^{-3} _____

(7.) 2 900 000 _____

(8.) 0.587 _____

(9.) 8.40×10^{-3} _____

(10.) 5.5×10^{-6} _____

(11.) 0.0456 _____

(12.) 4082.2 _____

(13.) 4.030×10^1 _____

(14.) 1.2×10^7 _____