

Chemical Foundations

SIGNIFICANT FIGURES & ROUNDING

A. Indicate the number of significant figures then round each to the number of significant figures indicated.

For example:

1.234 has 4 significant figures and, rounded to 2 significant figures, is 1.2

1. 0.6034 has _____ significant figures and, rounded to 2 significant figures, is _____

2. 12,700 has _____ significant figures and, rounded to 2 significant figures, is _____

3. 12,700.00 has _____ significant figures and, rounded to 1 significant figures, is _____

4. 0.000983 has _____ significant figures and, rounded to 2 significant figures, is _____

5. 123342.9 has _____ significant figures and, rounded to 5 significant figures, is _____

6. 6.023×10^{23} has _____ significant figures and, rounded to 2 significant figures, is _____

7. .005600 has _____ significant figures and, rounded to 1 significant figures, is _____

8. 10000.5006 has _____ significant figures and, rounded to 5 significant figures, is _____

9. 2.0×10^{-3} has _____ significant figures and, rounded to 1 significant figures, is _____

10. 3.456110 has _____ significant figures and, rounded to 3 significant figures, is _____

B. Given calculations with the calculator answer, write the answers with the appropriate number of significant figures.

Example:

$6.00 \times 3.00 = 18$ The answer should be 18.0

1. $23 + 46 = 69$ The answer should be _____

2. $23.0 + 46.0 = 69$ The answer should be _____

3. $253 + 345.8 = 598.8$ The answer should be _____

4. $56 - 35 = 21$ The answer should be _____

5. $56.00 - 35.0 = 21$ The answer should be _____

6. $46 \times 12 = 552$ The answer should be _____

7. $3.24 \times 5.63 = 18.2412$ The answer should be _____

8. $(2.355 + 2.645) \times 10.00 = 50$ The answer should be _____

9. $654 \div 32 = 20.4375$ The answer should be _____

10. $.024 \times .063 = 1.512 \times 10^{-03}$ The answer should be _____