

Significant Figures Worksheet.

Name: Key

You may use your calculator to solve each of the following. Don't round until the end (final answer).
 Addition/subtraction rules when working with measurements: PLACES: The final answer is dictated by the final SIGNIFICANT PLACE of the number that is least significant to the right.

1. $\begin{array}{r} 1243.36 \\ + 12.5 \\ \hline 1255.86 \\ \hline 1255.9 \end{array}$	2. $\begin{array}{r} 43.75 \\ 81.234 \\ +17.01 \\ \hline 141.994 \\ \hline 141.99 \end{array}$	3. $\begin{array}{r} 176.45 \\ +13.2222 \\ \hline 189.6722 \\ \hline 189.67 \end{array}$	4. $\begin{array}{r} 500 \\ + 23 \\ \hline 523 \\ \hline 500 \end{array}$	5. $\begin{array}{r} 500 \\ + 23 \\ \hline 523 \\ \hline 520 \end{array}$
6. $\begin{array}{r} 500 \\ +23 \\ \hline 523 \\ \hline 523 \end{array}$	7. $\begin{array}{r} 500.0 \\ -23 \\ \hline 477 \\ \hline 477 \end{array}$	8. $\begin{array}{r} 0.00566 \\ -0.0055 \\ \hline 0.00016 \\ \hline 0.0002 \\ \text{or } 2 \times 10^{-4} \end{array}$	9. $\begin{array}{r} 0.4321 \\ -0.0015 \\ \hline 0.4306 \end{array}$	10. $\begin{array}{r} 95.63 \\ 99.75 \\ +93.21 \\ \hline 288.59 \end{array}$
11. $\begin{array}{r} 14.023 \\ 12 \\ +300 \\ \hline 300.023 \\ \hline 300 \end{array}$	12. $\begin{array}{r} 1400.0 \\ + 233 \\ \hline 1633 \\ \hline 1633 \end{array}$	13. $\begin{array}{r} 457.23 \\ -438 \\ \hline 19.23 \\ \hline 19 \end{array}$	14. $\begin{array}{r} 0.156 \\ 9.23 \\ + 2.1 \\ \hline 11.486 \\ \hline 11.5 \end{array}$	15. $\begin{array}{r} 98.3 \\ + 2.156 \\ \hline 100.456 \\ \hline 100.5 \end{array}$

Multiplication/Division rules: The final answer only has the number of SIGNIFICANT DIGITS as the measurement with the LEAST NUMBER of significant digits.

16. $\begin{array}{l} 23.4 \times 18 \times 14.25 = \\ 6002.1 \\ 6000 \text{ or } 6.0 \times 10^3 \end{array}$	17. $\begin{array}{l} 0.053 \times 2.88 \times 1.44 = \\ 0.2198016 \\ 0.22 \end{array}$	18. $\begin{array}{l} 56.55/13 = 4.35 \\ 4.4 \end{array}$	19. $\begin{array}{l} 0.00500 \times 14.4 = \\ 0.0720 \end{array}$
20. $\begin{array}{l} (14.2 + 12) \div 2.53 = 26.2 \\ 2.53 \\ 10 \text{ (2 s.f.)} \end{array}$	21. $\begin{array}{l} (94.2 + 12) \div 2.53 = 42.0 \\ 2.53 \\ 41.976 \text{ (3 s.f.)} \\ 42.0 \end{array}$	22. $\begin{array}{l} (94.21 - 92) \div 2.53 = 2.21 \\ 2.53 \\ 0.8735 \\ 0.9 \text{ (1 s.f.)} \end{array}$	23. $\begin{array}{l} (94.2 + 0.035) \div 2.53 = 37.2 \\ 2.53 \\ 94.235 \\ 37.2 \text{ (3 s.f.)} \end{array}$
24. $\begin{array}{l} 0.0535 \times 8.1 \times 0.05 = 0.0216675 \\ 2 \text{ s.f.} \\ 0.02 \end{array}$	25. $\begin{array}{l} (94.2 + 2 + 3.25) \div (2.53 \times 3.255) = 12.07628 \\ 99.45 \\ 8.23515 \\ 2 \text{ s.f.} \quad 12 \end{array}$		

The key is found on my web page:

<http://mesacc.edu/~paudy84101/CHM151F2011/significantfiguresKey.pdf>