

Ch11 Rounding Off and Significant Digits #2

Name Key

Indicate the significant digits in each measurement.

- 1) 40.00g 2) 0.045kg 3) 409mm 4) 0.0098L
 5) 520mm 6) 3009.0cm 7) 0.57km 8) 654g
 9) 41.0s 10) 530L 11) 8.70km 12) 4990mm

Rewrite the following values using significant digits instead of showing the uncertainty separately.

- 13) 48.3 ± 4 L 48L 14) 56.48 ± 0.2 mm 56.5 mm
 15) 3.221 ± 0.04 mL 3.22mL 16) 2740 ± 300 g 2700 g

After doing an addition or a subtraction, you will have to round off the value showing on your calculator to a certain column to record the significant digits correctly. Round the following "calculator results" to the column indicated.

- 17) 46.933 (hundredths) 46.93 18) 236 (tens) 240
 19) 267.6 (ones) 268 20) 3459 (hundreds) 3500
 21) 0.9555 (thousandths) 0.956 22) 0.0649 (hundredths) 0.06
 23) 273.4 (tens) 270 24) 6666 (hundreds) 6700

After doing a multiplication or a division, you will have to round off the value showing on your calculator to a certain number of significant digits. Round the following "calculator results" to show 3 significant digits.

- 25) 2348.7 2350 26) 28.57332 28.6
 27) 0.00664 0.00664 28) 45555 45600
 29) 20.044 20.0 30) 0.00111 0.00111
 31) 567.89 568 32) 0.09999 0.100
 33) 3.0011 3.00 34) 1234 1230
 35) 875890 876000 36) 2.03567 2.04

The following calculations were done with a calculator. Round off the answers according to the rules of significant digits. Rewrite the answer in scientific notation only if necessary.

Remember: Adding or subtracting: think "columns".

Multiplying or dividing: think "least number".

$$37) 4.57 + 2.444 + 6.1 = \boxed{13.114} \text{ -----} \rightarrow \underline{13.1}$$

$$38) 3.67 \div 4.222 = \boxed{0.8692563} \text{ -----} \rightarrow \underline{0.869}$$

$$39) 245 - 1.37 = \boxed{243.63} \text{ -----} \rightarrow \underline{244}$$

$$40) 12.4 + 26.01 + 23 = \boxed{61.41} \text{ -----} \rightarrow \underline{61}$$

$$41) 2.0003 \times 125 = \boxed{250.0375} \text{ -----} \rightarrow \underline{250.}$$

$$42) 650 + 2.4 = \boxed{652.4} \text{ -----} \rightarrow \underline{650}$$

$$43) 0.025 \div 4.35 = \boxed{0.0057471} \text{ -----} \rightarrow \underline{0.0057}$$

$$44) 560 + 14 = \boxed{574} \text{ -----} \rightarrow \underline{570}$$

$$45) 1520 \times 0.0493 = \boxed{74.936} \text{ -----} \rightarrow \underline{74.9}$$

$$46) 68.98 - 2.477 = \boxed{66.503} \text{ -----} \rightarrow \underline{66.50}$$

$$47) 40.0 \times 2.00 = \boxed{80} \text{ -----} \rightarrow \underline{80.0}$$

$$48) 0.090 \div 1.003 = \boxed{0.0897308} \text{ -----} \rightarrow \underline{0.090}$$

$$49) 340 + 3.7 = \boxed{343.7} \text{ -----} \rightarrow \underline{340}$$

$$50) 3.662 \times 3.4569 = \boxed{12.659168} \text{ -----} \rightarrow \underline{12.66}$$