

Getting Into Rounding Numbers

Now that “everyone” has a calculator that will give a result to six or eight figures, it is important that we know how to round the answer off correctly. Simply rounding “up” (increasing) the number that is followed by a 5 is probably the most common method of rounding in entry-level courses. Think about this, however. When *all* numbers, odd and even, are rounded up if they are followed by a 5, then whatever is being measured will certainly be reported to be a little greater than it really is. We can correct for this problem by rounding “off” (keeping the number the same) in fifty percent of the roundings—even numbers followed by a 5. Then, the roundings “off” will cancel out the roundings “up.” (Numbers rounded off report measurements a little less than they really are.)

A little practice is all we need to root out the more commonly used method and replace it with the one that is more statistically significant. The following rules dictate the manner in which numbers are to be rounded to the number of figures indicated.

When rounding, examine the figure **to the right of** the figure that is to be last.

- If it is **less than 5**, drop it and all the figures to the right of it.
- If it is **more than 5**, increase by 1 the number to be rounded.
- If it **is 5**, round the number so that it will be even.

Suppose you wish to round 62.3547 to *four* figures. Look at the *fifth* figure. It is a 4, a number less than 5. Therefore, you will simply drop every figure after the fourth, and the original number becomes 62.35 .

Round 3.78721 to *three* figures. Look at the *fourth* figure. It is 7, a number greater than 5, so you round the original number **up** to 3.79.

Round 726.835 to *five* figures. Look at the *sixth* figure. It is a 5, so now you must look at the *fifth* figure also. That is a 3, which is an odd number, so you round the original number **up** to 726.84.

Round 24.8514 to *three* figures. Look at the *fourth* figure. It is a 5, so now you must also look at the *third* figure. It is 8, an even number, so you simply drop the 5 and the figures that follow it. The original number becomes 24.8