**SIGNIFICANT FIGURES**

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| Estimating is process normally used to see if your answer is of the correct order. However you will often be asked in exams to give your answer either exactly or to a certain degree of accuracy this can either be to a certain number of **significant figures**or a certain number of **decimal places**. |
| Remember whatever the degree of accuracy used, the answer represents an approximation of the answer and should still be of the same order |
| 1. | Leading zeros do not count. The first significant figure is the first non-zero value.Example:  0.001, 1 is the significant figure, hence 0.001 has one significant figure. |
| 2. | Trailing zeros before the decimal point do not count.Example: 10, 100, 1000 all have only one significant figure. |
| 3. | Zeros ‘sandwiched' between non-zero values count.Example: 101 three significant figures, 1001 four significant figures etc.. |
| 4. | Trailing zeros after a decimal point count if preceded by a non-zero value.Example: 0.01 one significant figure, 0.010 two significant figures, 0.0100 three significant figures.The reason these zeros are considered is because it shows the accuracy to which the value has been taken. This is important in science experiments. |
| 5. | When giving a value to a certain number of significant figures, say x, then if the (x+1)th value is less than five, then the x value remains the same, however if the (x+1)th value is five or more then the x value is increased by one. |
|   | Example: Give the following numbers correct to 3 significant figures |
|   | 1. 3.5444 http://www.saburchill.com/math/images/210407001.jpg 3.54
2. 3.5455 http://www.saburchill.com/math/images/210407001.jpg 3.55
3. 47,892 http://www.saburchill.com/math/images/210407001.jpg 47900
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Source: [www.saburchill.com/math/chapters/0030024.html](http://www.saburchill.com/math/chapters/0030024.html)