

## Scientific Notation

For numbers greater than 1	For numbers less than 1
300000000.0	0.00000250
<p>3.000000000      Put decimal point to the right of the first non-zero number</p> <p>8 places      Count the number of places the decimal point moved left, use number as exponent (<math>\times 10^{\text{left places}}</math>)</p> <p>3.000000000<math>\times 10^8</math>      10<sup>8</sup></p> <p>3.0<math>\times 10^8</math>      This can now be expressed with two digits after removing extra zeros</p> <p><i>This value is the speed of light in m/s!</i></p>	<p>0000002.50      Put decimal point to the right of the first non-zero number</p> <p>6 places      Count the number of places the decimal moved right, use as exponent (<math>\dots \times 10^{\text{right places}}</math>)</p> <p>0000002.5<math>\times 10^{-6}</math>      <i>note that it is a (-6) since initial number is less than one</i></p> <p>2.5<math>\times 10^{-6}</math>      Drop the extra zeros</p> <p><i>This is the average mass of an ant in kg!</i></p>
Adding/Subtracting	Multiplying/Dividing
<p>4.215<math>\times 10^{-2}</math> + 3.2<math>\times 10^{-4}</math></p> <p>4.215<math>\times 10^{-2}</math> + 0.032<math>\times 10^{-2}</math> <hr style="width: 50%; margin-left: 0;"/>4.247</p> <p>4.247<math>\times 10^{-2}</math>      Put in scientific notation</p> <p>Convert all numbers to the same power of 10. Add/subtract digits</p>	<p>(3.4<math>\times 10^6</math>)<math>\times</math>(4.2<math>\times 10^3</math>)</p> <p>(3.4)<math>\times</math>(4.2) = 14.28      Digit terms are multiplied/divided in the normal way</p> <p>10<sup>(6+3)</sup> = 10<sup>9</sup>      Exponents are added for multiplication (subtracted for division)</p> <p>14.28<math>\times 10^9</math>      Combine digits and exponent terms</p> <p>1.428<math>\times 10^{10}</math>      Put in scientific notation</p>
Using the Calculator	
<p>Punch the digit number into your calculator</p> <p>Push the EE or EXP button. Do <b>NOT</b> use the 'x' times button!</p> <p>Enter the exponent number. Use +/- button to change sign.</p>	