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| The Distributive Law |

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| Consider the [expression](http://www.mathsteacher.com.au/year7/ch05_algebra/04_exp/exp.htm) *a*(*b + c*).  This expression represents the [area of a rectangle](http://www.mathsteacher.com.au/year7/ch13_area/03_rect/rect.htm) of length *b + c* and width *a*.  So, this expression can be represented as:  This drawing illustrates the Distributive Law.  This can be split up into two parts as follows:  This drawing illustrates the Distributive Law.  Now, the sum of the areas of the rectangles = *ab + ac*.  This suggests that:  a(b + c) = ab + ac  This is called the **Distributive Law**.  Example 14  Expand 7(x + 8) and 8(x + 6).  *Solution:*  Use the Distributive Law to expand the expression.  Use the Distributive Law to expand the expression.  Example 15  Expand 5(y - 9) and 8(x - 4).  *Solution:*  Use the Distributive Law to expand the expression.  Use the Distributive Law to expand the expression.  Example 16  Expand and simplify 5(3 - x) + 7(x + 3) and 4(x + 3) + 2(x - 4).  *Solution:*  Use the Distributive Law to expand the expression and then add like terms.  Use the Distributive Law to expand the expression and then add like terms. |