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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 + acThis is called the **Distributive Law**.Example 14Expand 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 15Expand 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 16Expand 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. |