

## Math



### Factoring Trinomials Using the “AC” Method

#### The “AC” Method (Factoring Trinomials)

The “AC” method or factoring by grouping is a technique used to factor trinomials. A trinomial is a mathematical expression that consists of three terms ( $ax^2 + bx + c$ ).

Example of “AC” method:

1.  $6x^2 + 7x + 2$

2.  $a(c) = \underline{\quad}$        $b = \underline{\quad}$   
 $6(2) = 12$        $b = 7$

First, find the product of **a** and **c**.

3.  $12 = 12(1)$        $12 + 1 \neq 7$   
 $12 = 6(2)$        $6 + 2 \neq 7$   
 $12 = 4(3)$        **$4 + 3 = 7$**

A. List all the products that equal  $(a \cdot c)$ .

B. Check to see if numbers listed equal **b**, when added.

4.  $6x^2 + 3x + 4x + 2$

Rewrite trinomial with new numbers taking the middle term's place.  $7x$  is now  $3x + 4x$ .

5.  $(6x^2 + 3x) + (4x + 2)$   
 $3x(2x + 1) + 2(2x + 1)$

Isolate similar terms and factor out the greatest common factor (GCF).

6.  $(3x + 2)(2x + 1)$

Factor out  $2x + 1$  and rewrite.