

Factoring Trinomials: The Product and Sum Method or AC and B

The general form of a Quadratic Trinomial is: $ax^2 + bx + c$

Steps:

1. Find the Product by multiplying $a \bullet c$
2. Find the Sum by writing b
3. Use the following Chart to analyze your Product (P) and Sum (S) sign patterns:

P	S	
+	+	If both product and sum are positive, then both numbers are positive.
+	-	If the product is positive but the sum is negative, then both numbers are negative.
-	+	If the product is negative, but the sum is positive, then you have opposite signs and the larger of the two numbers is positive.
-	-	If both the product and sum are negative, then you have opposite signs and the larger of the two numbers is negative.

4. Set up a chart with your sign pattern like the following:

P (sign)	S (sign)	Product	Sum
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5. Find two numbers which give you your product and sum.
6. Re-write the “b” term of your trinomial using your two new numbers and attach the variable.
7. Factor by Grouping your four-term polynomial until **fully** factored.