**What it means to "factor?"**

Take an \_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_ problem and write it as an **EQUIVALENT** \_\_\_\_\_\_\_\_\_ problem.

**2 more ways to factor!**

\*\_\_\_\_\_\_\_\_\_\_\_\_

\*Difference of Two Perfect Squares (\_\_\_\_\_\_\_\_\_\_\_)

Remember to always start by checking for a \_\_\_\_\_\_\_\_\_\_\_\_ of the ENTIRE problem first!

We use A ≠ 1 when you have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ whose leading coefficient is \_\_\_\_ 1.

How to factor using the A ≠ 1:

|  |  |
| --- | --- |
| 1.) Multiply "\_\_\_\_\_" x "\_\_\_\_\_" | 2.) Determine what \_\_\_\_\_\_ numbers multiply to "ac" that add up to "\_\_\_\_\_\_\_\_" |
| 3.) \_\_\_\_\_\_\_\_\_\_\_\_ "b" as those 2 numbers (include the \_\_\_\_\_\_\_\_\_\_\_\_\_). Bring down your original \_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_ terms.  **Checkpoint:** You should now have \_\_\_\_\_\_\_\_\_ terms! | 4.) Factor by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  - Put (first 2 terms)(last 2 terms)  - Factor out a GCF from each parenthesis.  GCF(leftovers) +/- GCF(leftovers)  \*You must always take out Two GCF’s.  \*The second GCF will have the same sign as the 3rd term.  \*The second GCF may be a 1 or – 1.  **Checkpoint:** Your leftovers should be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_! |

Write your factors as (\_\_\_\_\_\_\_\_)(\_\_\_\_\_\_\_\_\_)

**Example: Factor using A 1.**

|  |
| --- |
|  |
|  |

We use DOTS when you have...

|  |  |
| --- | --- |
| \_\_\_\_\_\_\_\_ Terms | 1 \_\_\_\_\_\_\_\_\_ Sign |
| Coefficients and Constants (all of the \_\_\_\_\_\_\_\_\_\_\_\_) are Perfect Squares | Variables have \_\_\_\_\_\_ exponents  To factor variables, \_\_\_\_\_\_\_\_ the exponent by 2 |

**How to factor using DOTS:**

1.) Take the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of each term.

\* DO \_\_\_\_\_\_\_\_\_\_ INCLUDE THE \_\_\_\_\_\_\_\_\_\_\_\_ SIGN!

**Write your factors as:**

(\_\_\_ + \_\_\_)(\_\_\_ - \_\_\_)

|  |  |
| --- | --- |
| **The square root of the  positive term goes in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.** | **The square root  of the term behind the minus sign goes in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.** |

**Example: Factoring using DOTS.**

|  |  |
| --- | --- |
|  |  |

**Putting it all together!**

|  |
| --- |
|  |