# Factoring Quadratic Expressions ($c < 0$)

Name _____

Date _____ Period _____

Factoring Quadratics in the form...

$$ax^2 \pm bx - c$$

For this lesson, $c$ is alway negative

When $c$ is negative, our factors will have different signs

$$x^2 - 13x - 30$$

Step 1: Find positive factors of $a \cdot c$

Step 2: $c$ is negative ⇒ different signs

Step 3: Split the Middle $b$ term

Step 4: Factor by Grouping

$$x^2 + 3x - 18$$

Step 1: Find positive factors of $a \cdot c$

Step 3: Split the Middle $b$ term

Step 4: Factor by Grouping

Step 2: $c$ is negative $\Rightarrow$ different signs

$$x^2 + x - 6$$

Step 1: Find positive factors of $a \cdot c$

Step 3: Split the Middle $b$ term

Step 4: Factor by Grouping

Step 2: $c$ is negative $\Rightarrow$ different signs

$3x^2 - 5x - 8$

Step 1: Find positive factors of $a \cdot c$

Step 3: Split the Middle $b$ term

Step 4: Factor by Grouping

Step 2: $c$ is negative $\Rightarrow$ different signs

$2x^2 - 7x - 15$

Step 1: Find positive factors of $a \cdot c$

Step 3: Split the Middle $b$ term

Step 4: Factor by Grouping

Step 2: $c$ is negative $\Rightarrow$ different signs

$$2x^2 + 11x - 6$$

Step 1: Find positive factors of $a \cdot c$

Step 2: $c$ is negative ⇒ different signs

Step 3: Split the Middle $b$ term

Step 4: Factor by Grouping

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