Factoring Trinomials in the form of $x^2 \pm bx - c$

Name _____

Date _____ Period _____

Factoring Trinomials in the form...

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

For this lesson $a = 1$ and c is always negative

Factoring when b is positive and when b is negative

c is negative; factors will have different signs

$$x^2 + 2x - 8$$

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

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

Step 3: Split the Middle b term

Step 4: Factor by Grouping

$$x^2 + 3x - 10$$

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

$$x^2 + 14x - 15$$

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

$$x^2 + x - 6$$

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 ⇒ 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 ⇒ different signs

$$x^2 - 5x - 6$$

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

$$x^2 - 4x - 21$$

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

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

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 ⇒ different signs

Factoring Trinomials of the form...

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

For this lesson $a = 1$ and c is always negative

c is negative; factors will have different signs

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

Step 3: Split the Middle b term

Step 2: c is negative ⇒ different signs

add to b

Step 4: Factor by Grouping