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 positive

Factoring when b is positive and when b is negative

c is positive; factors will have the same sign

$$x^2 + 6x + 8$$

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

Step 2: c is positive $\Rightarrow$ same sign

Step 3: Split the Middle b term

Step 4: Factor by Grouping

$$x^2 + 8x + 15$$

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

Step 2: c is positive ⇒ same sign

Step 3: Split the Middle b term

Step 4: Factor by Grouping

$$x^2 + 13x + 12$$

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

Step 2: c is positive ⇒ same sign

Step 3: Split the Middle b term

Step 4: Factor by Grouping

$$x^2 + 5x + 6$$

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 positive $\Rightarrow$ same sign

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

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 positive $\Rightarrow$ same sign

$$x^2 - 7x + 12$$

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

Step 2: c is positive $\Rightarrow$ same sign

Step 3: Split the Middle b term

Step 4: Factor by Grouping

$$x^2 - 11x + 18$$

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

Step 2: c is positive $\Rightarrow$ same sign

Step 3: Split the Middle b term

Step 4: Factor by Grouping

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

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 positive ⇒ same sign

Factoring Trinomials of the form...

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

For this lesson $a = 1$ and c is alway positive

c is positive; factors will have the same sign

factors will have the same sign as b

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

Step 3: Split the Middle b term

Step 2: c is positive ⇒ same sign

add to b

Step 4: Factor by Grouping