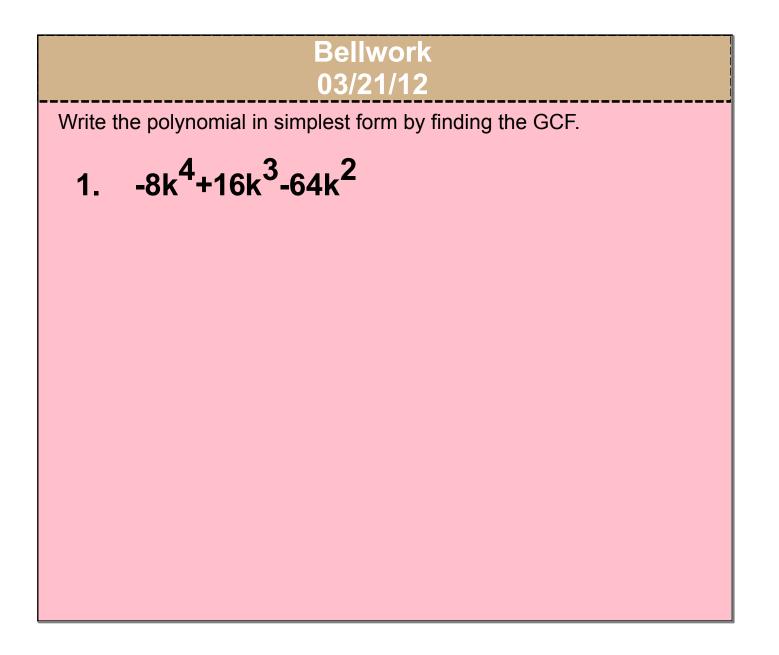


Lesson 12.1 GCF's
What You Need to Know:
A greatest common factor is the product of all the common factors.
To find the GCF of a polynomial, find what each term has in common.
The GCF of 7x <sup>3</sup> -63x is 7x.
If the first term of the polynomial (in standard form) is negative, the GCF should be negative because we never want a polynomial that starts with a negative. Boo!
Once you find the GCF, write it outside of the simplified polynomiallike <i>reverse distribution</i> .
7x³-63x simplified is 7x(x²-9)

GCF's Write the polynomial in simplest form by finding the GCF.  $3w^3$ -75w 24y<sup>3</sup>+32y  $3a^{2}+30$  $-7t^{5}-14t^{4}+7t^{3}$  $2x^{3}+12x^{2}+18x$ 

## Homework Assignment Worksheet "GCF's"



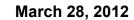
Lesson 12.2 x²+bx+c
What You Need to Know:
Tips for Signs: $x^2+bx+c$ $(+)(+)$ $x^2-bx+c$ $(-)(-)$ $x^2+bx-c$ $(-)(+)$ or $(+)(-)$ $x^2-bx-c$ $(-)(+)$ or $(+)(-)$
In Order to Factor: 1. Standard Form? 2. Reduced (Distributive)? 3. Write as a product (Reverse Foil)!
<ul> <li>How to Factor x<sup>2</sup>+bx+c:</li> <li>1. Factor the first term.</li> <li>2. Factor the last term.</li> <li>3. Find factors of the last term that add (or subtract) to give middle term.</li> </ul>

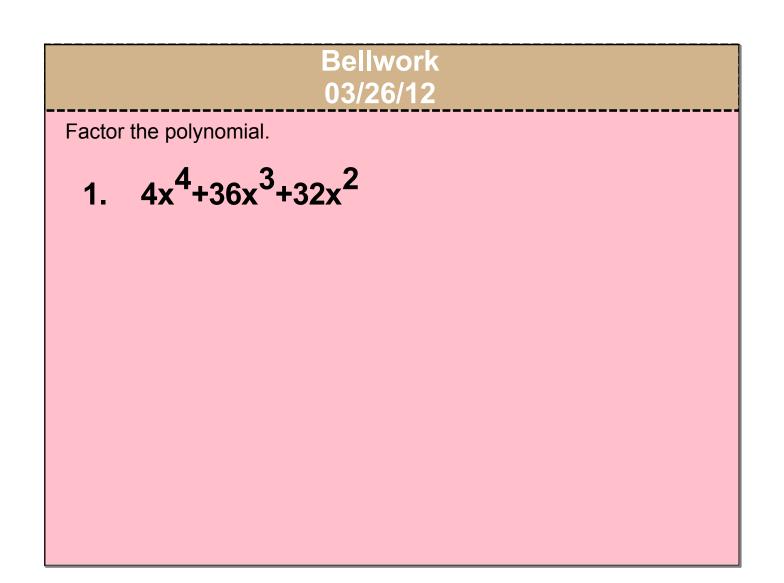
## Lesson 12.4

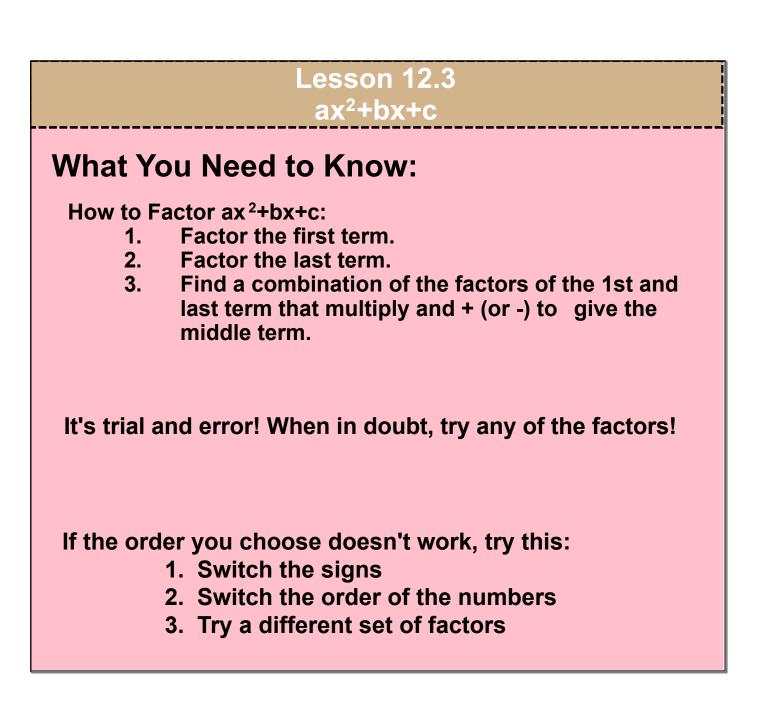
>	∠+bx+c
Factor the trinomial.	
x <sup>2</sup> +6x+5	
x <sup>2</sup> -7x+12	
x <sup>2</sup> -4x-12	
x <sup>2</sup> +3x-28	
x <sup>2</sup> +15x+56	



Worksheet "Factoring x<sup>2</sup>+bx+c"





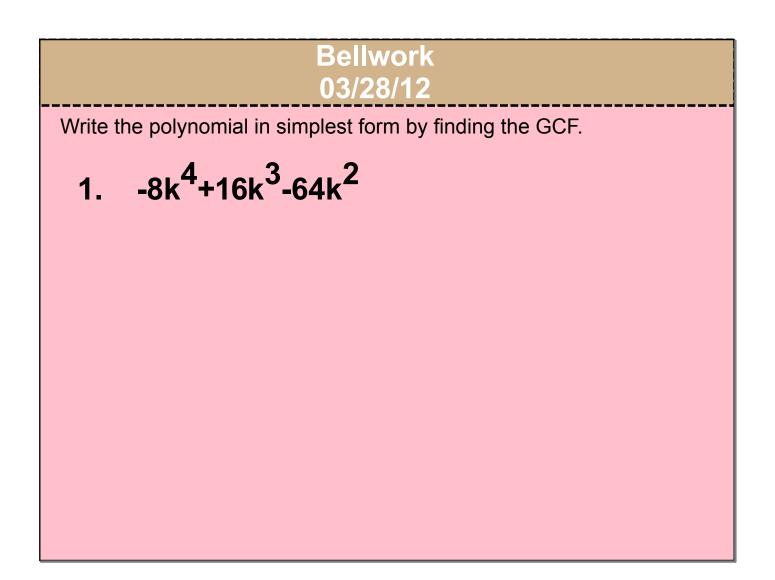


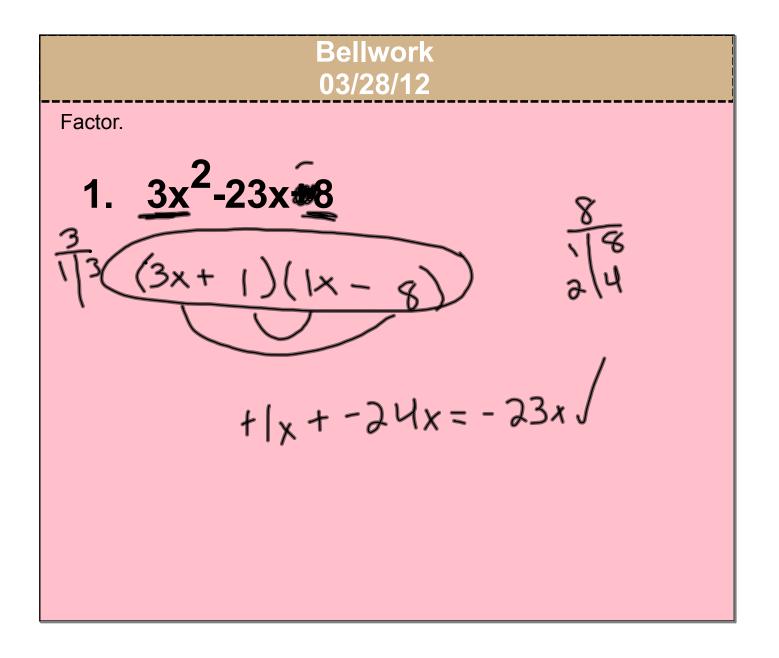
	ax²+bx+c
Factor the trinomial.	
5x <sup>2</sup> +11x+2	
2x <sup>2</sup> +5x+3	
9x <sup>2</sup> +65x+14	
6x²-23x+15	
8x <sup>2</sup> +38x+9	

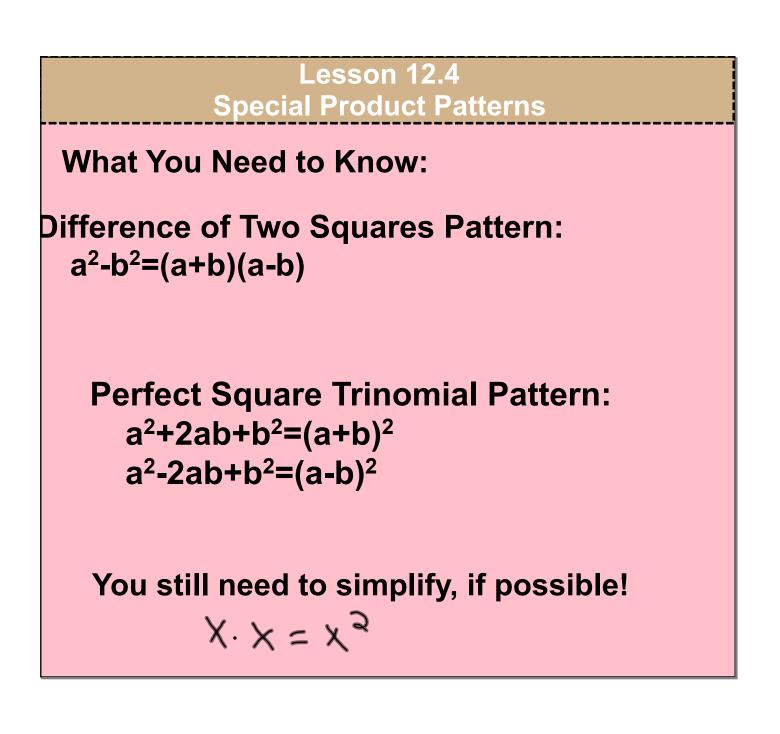


Worksheet "Factoring ax<sup>2</sup>+bx+c"









**Special Product Patterns** Factor the expression. Simplify first, if necessary!  $\int m^2 - 9$ (m + 3)(m - 3) 49q<sup>2</sup>-81  $(7q+9)(7q-9) = \frac{2x^2+6x}{2x}$ 12-27x<sup>2</sup> - <u>Jr</u> + 13  $-3(9_{x}^{2}-4)$  $-3(3_{x}+3)(3_{x}-3)$ x<sup>2</sup>-8x+16  $(X - Y)^{a}$ -4x.2=-8x  $\int 9y^{2} + 60y + 100$  $(3y + 10)^{3}$  $2x^{2}$ -12x+18 2  $\frac{2x^2}{2} + \frac{-12x}{2} + \frac{18}{2}$  $2(1x^{2}-6x+9)$  $2(x-3)^{2}$ 

## Homework Assignment Worksheet "Special Product Patterns"

