Math-3A Lesson 2-1 (Common Factors, Multiplying Binomials
2 <i>x</i> <u>Factors</u> :,
2(x+3) Factors: Why is $(x + 3)$ a factor? (it looks like a sum)
Because it is anthat is being multiplied by
2*(x+3)

The expression $2x + 6$ has the			
<u>"Factoring out" a common Factor</u> from an expression means to rewrite the expression as the <u>common factor</u> <u>multiplied by</u> the expression. $2x + 6 \rightarrow \underline{\hspace{2cm}}$			
2(x + 3) = 2x + 6 Factoring out the common factor: the "" of the" of the"			

Identify the factors in each expression.

$$5x(3x+1)(2x-5) \rightarrow \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$$
 $x^2(x-2)(x+3) \rightarrow \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$

Factors can be an expression made up of terms being added.

Sometimes the common factor is an integer

$$3x - 12$$
(__*__) - (__*__)
$$3(x - 4)$$

$$-4x^2 + 8x + 12$$
(__*__*__) + (__*__*__) + (__*__)
$$-4(x^2 - 2x - 3)$$

Sometimes the common factor is a variable

$$x^{2} + x$$
 $x^{3} + x^{2} + x$ $(x * x) + (1 * x)$ $(x * x^{2}) + (x * x) + x * 1$

"x" is a common factor both terms

Sometimes the common factors are both an integer and a variable.

$$4x^{2} - 16x$$

$$(4 * x * x) - (4 * 4 * x)$$

$$4x(x - 4)$$

Factor the following expressions

$$-50b + 90$$

$$-10 + 20n^3$$

$$-60x^5 - 100x^4 - 30x^2$$

$$-81r - 63r^3 - 63r^4$$

$$-24x^4 + 40x^3 - 80x^2 + 16x$$

$$-40x^6 + 20x^2 + 4x + 8$$

Multiplying Binomials	(x-3)(x+4)	
The "Box Method"		

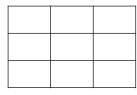
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Standard Form Quadratic Expression

$$(x-1)(x+5)$$
 $(x+2)(x+6)$ $(x-4)(x+4)$

$$(x+2)(x+6)$$

$$(x-4)(x+4)$$





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