**Factoring a Polynomial**

**Steps to Follow**

1. Is there a COMMON FACTOR ?
 *see example 1*
2. How many terms are there ? 2 or 3
 2 3
- difference of squares ? - perfect square ?
yes no yes no
*example 2* you cannot *example 3* type $x^{2}+bx+c$
 factor *see example 4 and 6*
 type $ax^{2}+bx+c$
 *see example 5 and 7*

**Example 1**

$$5x^{2}-15x$$

**Example 2**

$$3x^{2}-48$$

**Example 3**

$$4x^{2}-20x+25$$

**Example 5**

$$6x^{2}-x-2$$

**Example 6**

$$3x^{2}-3x-18$$

**Example 4**

$$x^{2}+5x+6$$

**Example 7**

$$6x^{2}+21x-45$$

**Example 8**

$$2x^{2}-19xy+35y^{2}$$