## **Factoring Completely**

r most factoring problems you will need to first factor out a GCF and then perform the proper factoring technique. Look at the following examples to see the two-step process.

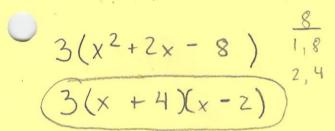
$$3x^{2} - 12x - 15 = 3(x^{2} - 4x - 5)$$
$$= 3(x - 5)(x + 1)$$

$$5x^{2} - 40 = 5(x^{2} - 9)$$
$$= 5(x - 3)(x + 3)$$

Again, the most important thing and most difficult is to remember what factoring process to use. Nonetheless, the first step is always to look for a GCF!!!!

**Factor Completely** 

1. 
$$3x^2+6x-24$$



3. 
$$12x^{2}-12y^{2}$$

$$12(x^{2}-y^{2})$$

$$12(x+y)(x-y)$$

5. 
$$x^4 - 10x^3 - 24x^2$$

2. 
$$2x^2-50$$
  
 $2(x^2-25)$   
 $2(x+5)(x-5)$ 

 $5x^2 - 20x = 60$ 

 $18x^2 - 8$ 

$$5(x^{2}-4x-12) \frac{12}{1,12}$$

$$5(x+2) \frac{12}{1,12}$$

$$\chi^{2}(\chi^{2}-10\chi^{-2}4)$$
  $\frac{27}{1,27}$   $2(9\chi^{2}-4)$   $\chi^{2}(\chi+2\chi\chi-12)$   $\frac{3,8}{4,6}$   $2(3\chi-2\chi3\chi+2)$ 

## **Factoring Completely Practice**

## **Factor Completely**

$$\int 10x^2-90$$

2. 
$$2x^2-6x-20$$

3. 
$$4x^2 - 49$$

4. 
$$x^2 - 2x + 1$$

5. 
$$10a^6 - 4a^2 + 8a$$

6. 
$$6x^2 + 60x - 66$$

7. 
$$x^2 - 196$$

8. 
$$3x^2 + 27$$

9. 
$$x^3 + 5x^2 - 36x$$

10. 
$$7a^2 - 28b^2$$