## Factoring

## **Factoring Strategies**

## General Factoring Strategy

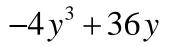
- 1) If there is a GCF greater than 1, factor it out.
- 2) If there is a binomial, check to see if it is the difference of squares:  $a^2 - b^2 = (a+b)(a-b)$
- 3) If there is a trinomial, ask the following questions in this order:
  - 1) Is it a perfect square trinomial?

$$a^{2} + 2ab + b^{2} = (a+b)^{2}$$
  
 $a^{2} - 2ab + b^{2} = (a-b)^{2}$ 

- 2) Is the leading coefficient 1 (a = 1)? If so, find factors of c that add to b....
- 3) Is the leading coefficient something other than 1 (a≠1)? If so, use the "ac method" to factor. That is, find factors of ac that add to b and use the numbers in that product to rewrite the middle term. Factor by grouping.
- 4) If there are four terms, try factor by grouping.

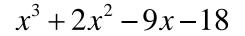
Factor the following expressions completely.

$$x^2 - 11x + 18 \qquad \qquad 9x^2 - 18x + 5$$



Factor the following expressions completely.

$$6r^2 - 18r - 60 \qquad \qquad 64x^2 - 80xy + 25y^2$$



 $p^{4} + p^{2}$