Recap the factoring methods we have done so far this unit:

1. Common Factoring:

Factor the following.

a) $9x + 6$

b) $6x^4 y^3 - 2xy^6 + 8x^3 y^2$

2. Trinomial Factoring:

$$x^2 + bx + c$$

Factor the following.

a) $x^2 - 4x + 3$

b) $x^2 + 3x - 18$

Lesson #4 Factoring Difference of Squares

What happens when we don't have a middle term?

<u>Ex 1)</u> Factor: $w^2 - 25$

<u>Notice!</u> w^2 and 25 are perfect squares.

This is the same as: $w^2 + 0w - 25$

       _____ x _____ =

       _____ + _____ =

<u>Ex 2)</u> Factor: y^2 - 16

<u>Notice!</u> y^2 and 16 are perfect squares.

____ x ____ =
____ + ____ =

<u>Ex 3)</u> Expand $(2x + 7)(2x - 7)$

<u>Notice!</u> $4x^2$ and 49 are perfect squares.

$$4x^2 - 49$$
____ x ____ =
____ + ____ =

<u>In general...</u>
To factor a difference of squares

<u>Examples</u>
a) $w^2 - 36$ b) $n^2 - 64$

c) $9k^2 - 16$ d) $4c^2 - 25$

**Remember always to common factor FIRST if you can!!
e) $5y^2 - 80$ f) $6m^2 - 54$

Homework: Page 302 #3, 4, 5, 7, 13