Factor by Grouping 4 Terms

Recall how to combine like terms.

$$3x + 2x =$$

$$3(x) + 2(x) =$$

* $$3(x+1) + 2(x+1) = 5(x+1)$$

* $$4(y+3) + x(y+3) =$$

$$8(w^2+1) - 9(w^2+1) =$$

$$x(x+7) - 9(x+7) =$$

Factor 4 terms by grouping them into 2 binomials.
Then factor each binomial, and look for like terms

Example

$$(4a^3 - 6a^2) + (2a - 3)$$

$$2a^2(2a - 3) + 1(2a - 3)$$

$$(2a^2 + 1)(2a - 3)$$

Careful with the Negatives

$$(4x^3 + 2x^2) + (2x - 1)$$

$$2x^2(2x + 1) + {}^-1(2x + 1)$$

$$(2x^2 - 1)(2x + 1)$$

Sometimes you need to change the order.

$$15n^2 + 28 - 20n - 21n$$

$$x^2 + 7x + x + 7$$

$$2x^2 + 10x + 3x + 15$$

$$30y^2 - 25y + 18y - 15$$

$$2a^2 - 3a - 16a + 24$$

WS 8.8 show your work
$(1-10)$

XL 8.8