

Algebra 2  
Lesson: April 8th

**Learning Target:**

Students will factor polynomial expressions by grouping.

**Let's Get Started:**

Watch Video - [Factor by Grouping](#)

# Practice:

1. Get out a sheet of paper, review and take notes over the three problems on this video: [Factor by Grouping](#)
  - a. When factoring, always ask yourself if there is a common factor for all four terms. If so, factor that out first.
  - b. Next group the first two terms and the last two terms. Factor out the GCF from the first 2 terms and then factor out the GCF from the last 2 terms; both sets of parentheses should match.
  - c. Combine your answer like this:  $ab + ac + db + dc$ 
$$a(b + c) + d(b + c)$$
$$(b + c)(a + d)$$
  - d. If your remaining polynomial has a factor with an exponent greater than one, see if you can factor it.
2. Try some practice [here](#). You will receive feedback on your work.

# Factoring Polynomials Practice:

On the same sheet of paper, factor the following practice problems.

## Grouping

1.  $x^3 - 4x^2 - 8x + 32$

2.  $x^3 + 4x^2 - 9x - 36$

3.  $4x^4 + 16x^3 - 8x^2 - 32x$

4.  $2x^3 + 5x^2 + 6x + 15$

# Answer Key:

Once you have completed the problems, check your answers here.

## Key

1.  $(x - 4)(x^2 - 8)$

2.  $(x + 4)(x - 3)(x + 3)$

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

4.  $(2x + 5)(x^2 + 3)$

## **Additional Practice:**

Click on the links below to get additional practice and to check your understanding!

[Factoring by GCF](#) Video (always look for GCF first)

[Factor by Grouping](#) Video

[Factoring by Grouping](#) Practice

[Factoring by Grouping](#) Practice Answer Key