# Algebra 2 <br> Lesson: April 6th 

# Learning Target: <br> Students will factor expressions involving a GCF (monomial) and difference of squares. 

Let's Get Started:<br>Watch Video - Factoring Difference of Squares

## Practice:

1. Get out a sheet of paper, review and take notes over the problems on this video: Factor Common Monomial and Difference of Squares
2. When factoring, always ask yourself if there is a common factor. If so, factor that out first.
3. If your remaining polynomial has a term with an exponent greater than one, see if you can factor it like a regular quadratic. If your remaining polynomial leaves you with the difference (subtraction) of two square terms, follow this form for factoring:

## Difference of Squares

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

## Factoring Polynomials Practice:

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

## Common Monomials and Difference of Squares

1. $2 x z^{4}-162 x$
2. $81 x^{7}-256 x^{3}$
3. $x^{7}-\frac{4}{9} x^{5}$
4. $y^{6}-\frac{4}{25} y^{4}$
5. $\frac{64}{121} x^{6}-1$
6. $4 x^{6}-64 x^{2}$
7. $\frac{1}{9} x^{4}-\frac{25}{36}$

## Answer Key:

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

## Key

1. $2 x(z-3)(z+3)\left(z^{2}+9\right)$
2. $x^{5}\left(x-\frac{2}{3}\right)\left(x+\frac{2}{3}\right)$
3. $\left(\frac{8}{11} x^{3}-1\right)\left(\frac{8}{11} x^{3}+1\right)$
4. $y^{4}\left(y-\frac{2}{5}\right)\left(y+\frac{2}{5}\right)$
5. $\left(\frac{1}{3} x^{2}-\frac{5}{6}\right)\left(\frac{1}{3} x^{2}+\frac{5}{6}\right)$
6. $x^{3}(3 x-4)(3 x+4)\left(9 x^{2}+16\right)$
7. $4 x^{2}(x-2)(x+2)\left(x^{2}+4\right)$

## Additional Practice:

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

## Factor out a Monomial Online Practice

## Factoring Difference of Squares Online Practice

## Factoring Special Cases Practice

Factoring Special Cases Practice Answer Key

