

Independent Studies in Mathematics Cycle Sheet

May 8, 2017 through May 12, 2017



Goals: Reviewing and Preparing for the Final.

Monday: Polynomials and Factoring

Homework: Worksheet

Tuesday: Long and Synthetic Division

Homework: Worksheet

Wednesday: Complete the Square and Quadratic Formula

Homework: Worksheet

Thursday: Rational Expressions and Complex Fractions

Homework: Worksheet

Friday: Radicals and Radical Equations

Homework: Study for Final

Vocabulary

| | | | |
|----------|----------|------------|--------------|
| origin | relation | domain | independent |
| abscissa | function | range | dependent |
| ordinate | factors | exponent | monomial |
| roots | binomial | polynomial | discriminant |

Know the following

Complete the Square
Quadratic Formula
Rational Expression

Synthetic Division
Square Root of -1
Factor by Grouping

Video Toolbox

Algebra Review
Fractions
Exponents

Complete the Square

Radicals

$$\text{radical} \rightarrow \sqrt[n]{\text{radicand } X^m} = X^{m/n}$$

index

↑

radicand

Negative Exponents

A negative exponent is a way of writing fractions.

$$\frac{1}{x^n} = x^{-n} \quad \frac{1}{x^{-n}} = x^n$$

Laws of Exponents

$$a^m \cdot a^n = a^{m+n}$$

$$\frac{a^m}{a^n} = a^{m-n}$$

$$(a^m)^n = a^{m \cdot n}$$

$$\sqrt[n]{a^m} = a^{\frac{m}{n}}$$

$$a^{-m} = \frac{1}{a^m}$$

$$a^0 = 1$$

$$a^1 = a$$

Rational Function Domain

All real numbers except those that make the denominator zero.