Coreq Support for Section 1.6b

# Topic 1: Negative Exponents

# (Video: Negative Exponents)

If $a$ is a real number other than $0$ and $n$ is an integer, then

$a^{-n}=\frac{1}{a^{n}}$.

# Topic 2: Evaluating Expressions of the Form $a^{\frac{1}{n}}$

# (Video: Rational Exponents 0:00 – 7:15)

**Definition of** $a^{\frac{1}{n}}$**:** If $n$ is an integer greater than $1$ and $\sqrt[n]{a}$ is a real number, then $a^{\frac{1}{n}}=\sqrt[n]{a}$.

# Topic 3: Solving Quadratic Equations

Recall from section 1.4 that some quadratic equations can be solved by factoring and then using the zero product property and that quadratic equations of the form $x^{2}-c=0$ by using the square root property.

# Topic 4: Solving Rational Equations

Recall from section 1.1 that a rational equation is an equation consisting of one or more rational expressions with any other expressions of the equation being polynomials. Here are some examples of rational equations.

$\frac{1}{x}=7$ $\frac{2}{x-5}=-3$ $x^{-1}=\frac{1}{4}$

To solve a rational equation multiply both sides of the equation by the LCD. Remember to check for extraneous solutions.

# Topic 5: Solving Radical Equations of the Form $\sqrt[n]{x}=c$

To solve a radical equation of the form $\sqrt[n]{x}=c$ raise each side of the equation to the appropriate power to eliminate the radical. When the index of the radical is even, be sure to check for extraneous solutions.