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.

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

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.