

## Coreq Support for Section 5.4

### Topic 1: Understanding the Definition of a Logarithmic Function

**Definition:** For  $x > 0$ ,  $b > 0$  and  $b \neq 1$ , the **logarithmic function with base  $b$**  is defined by  $y = \log_b x$  if and only if  $x = b^y$ .

The definition of a logarithmic function can be used to rewrite a logarithmic equation as an equation involving an exponent or to rewrite an equation involving an exponent as a logarithmic equation.

### Topic 2: Solving Exponential Equations by Relating the Bases

Recall from section 5.1 that some exponential equations can be solved by using the **Method of Relating the Bases**. If  $b$  is a positive number other than 1 and  $b^u = b^v$ , then  $u = v$ .

### Topic 3: Evaluating Expressions with Negative and Rational Exponents

### Topic 4: Solving Quadratic Equations by Factoring

### Topic 5: Solving Rational Equations