

## I. Simplifying Logarithmic Expressions:

$$1. \log_b x^n = n \cdot \log_b x$$

$$2. \log_b (x \cdot y) = \log_b x + \log_b y$$

$$3. \log_b (x \div y) = \log_b x - \log_b y$$

$$4. \log_b x = \frac{\log_a x}{\log_a b} \quad (\text{change base "b" to base "a"})$$

II. Examples (pp.712-713): Exercises #2-30(even),  
38-68(even)

HW: pp.712-713 / Exercises #1-31(odd),37-67(odd)

## I. Some Basic Properties:

$$1. b^x = b^y \Leftrightarrow \underline{\quad} = \underline{\quad}$$

$$2. a^x = b^x \Leftrightarrow \underline{\quad} = \underline{\quad}$$

$$3. \log_b(\mathbf{x}) = \log_b(\mathbf{y}) \Leftrightarrow \underline{\quad} = \underline{\quad}$$

$$4. \log_a(\mathbf{x}) = \log_b(\mathbf{x}) \Leftrightarrow \underline{\quad} = \underline{\quad}$$

II. Examples (pp.726-727): Exercises #2-40(even),  
42-98(even)

HW: pp.726-727 / Exercises #1-97(every other odd)