

## 7-4 Properties of Logarithms

If  $b^x = a$ , then  $\log_b a = x$

Product Property	$\log_b (m \cdot n) = \log_b m + \log_b n$
Quotient Property	$\log_b \frac{m}{n} = \log_b m - \log_b n$
Power Property	$\log_b a^p = p \cdot \log_b a$
Inverse Properties	$\log_b b^x = x$ and $b^{\log_b x} = x$
Change of Base Formula	$\log_b x = \frac{\log_a x}{\log_a b}$