**Rules for Exponents and Logarithms**

**Properties of Exponents**

1. **Exponentiation by Zero:**

1. **Negative Exponents:**

1. **Product Rule:**
2. **Quotient Rule:**
3. **Power Rules:**

NB: If *n* is odd, then

**Properties** **of Logarithms**

1. **Definition:**

)is, by definition, equivalent to

Note: and

1. **Zero Property:**
2. **Identity Property:**
3. **Inverse Rules:**

1. **Product Rule:**
2. **Quotient Rule:**
3. **Exponent Rule:**
4. **Change of Base:**