

## 2.3 Powers

Bases (positive real numbers):  $a, b$

Powers (rational numbers):  $n, m$

$$82. \quad a^m a^n = a^{m+n}$$

$$83. \quad \frac{a^m}{a^n} = a^{m-n}$$

$$84. \quad (ab)^m = a^m b^m$$

$$85. \quad \left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$$

$$86. \quad (a^m)^n = a^{mn}$$

$$87. \quad a^0 = 1, a \neq 0$$

$$88. \quad a^1 = a$$

$$89. \quad a^{-m} = \frac{1}{a^m}$$

$$90. \quad a^{\frac{m}{n}} = \sqrt[n]{a^m}$$