

Exponents

$$(1) \quad b^m b^n = b^{m+n} \qquad 3^2 3^4 = 3^{2+4} = 3^6$$

$$(2) \quad (b^m)^n = b^{m \cdot n} \qquad (3^2)^4 = 3^{2 \cdot 4} = 3^8$$

$$(3) \quad (ab)^n = a^n b^n \qquad (2 \cdot 3)^5 = 2^5 \cdot 3^5$$

$$(4) \quad \left(\frac{a}{b}\right)^n = \frac{a^n}{b^n} \qquad \left(\frac{2}{3}\right)^4 = \frac{2^4}{3^4}$$

$$(5) \quad b^0 = 1 \qquad 5^0 = 1$$

$$(6) \quad \frac{b^m}{b^n} = b^{m-n} \qquad \frac{3^7}{3^2} = 3^{7-2} = 3^5$$

$$(7) \quad b^{-n} = \frac{1}{b^n} \qquad 2^{-3} = \frac{1}{2^3}$$

$$(8) \quad \frac{1}{b^{-n}} = b^n \qquad \frac{1}{3^{-2}} = 3^2$$