

Notes #5~ Sect. 8.3: Multiplication Properties of Exponents

$$\text{Multiplying Powers with the Same Base} : a^m \cdot a^n = a^{m+n}$$

Ex. 1 : Rewrite each expression using each base only once.

a) $7^3 \cdot 7^2$

b) $4^4 \cdot 4^1 \cdot 4^{-2}$

c) $c^8 \cdot c^{-8}$

Ex. 2: Simplify each expression.

a) $p^2 \cdot p \cdot p^5$

b) $4x^6 \cdot 5x^{-4}$

c) $6y^2 \cdot 3y^3 \cdot 2y^{-4}$

Ex. 3: Simplify each expression.

a) $a^2 \cdot b^{-4} \cdot a^5$

b) $2q \cdot 3p^3 \cdot 4q^4$

Ex. 4: Simplify each expression. Write each answers in scientific notation.

a) $(3 \times 10^{-3})(7 \times 10^{-5})$

b) $(1.5 \times 10^{-2})(3 \times 10^4)$