

Properties of Exponents

Section 8.1

Product of Powers

$$(a^m)^n = a^{mn}$$

$$(ab)^n = a^n b^n$$

Examples

$$1. (a^4)^3 = \underset{a^{12}}{a^4 \cdot a^4 \cdot a^4}$$

$$2. (x^4)^5 = x^{20}$$

$$3. (x^5)^3 = x^{15}$$

$$4. x^2(x^3)^2$$

.....

$$\underline{x^2 \cdot x^6 = x^8}$$

Examples

5. $(a^6b^5)^2$

$$a^{12}b^6$$

6. $(2a^4)^3$

$$2^3a^{12}$$

$$8a^{12}$$

7. $(-4a^3b^3)^2$

$$(-4)^2a^6b^6$$

$$16a^6b^6$$

8. $(3a^2b^3c^3)^5$

$$3^5a^{10}b^{15}c^{15}$$

$$243a^{10}b^{15}c^{15}$$

CLASSWORK

- Blue Book
- Pg 245 # 1-18
- Wkst 8.1 A- #10-30
- Wkst 8.1B # 10-36

Homework

- Wkst 8.1 C # 7-24