

Multiplying Powers with the Same Base

Guide Notes

Definition for Multiplying Power of the Same Base

$$a^m \times a^n = a^{m+n}$$

Sample Problem 1: Simplify the following expressions.

1. $x^2 * x^3$

2. $y^2 \times y$

3. $3^2 \times 3^2$

4. $4^3 \times 4^{-1}$

Sample Problem 2: Evaluate the following using properties of powers.

5. $(2x^3)x^4$

6. $(2^2x)(2x)$

7. $(3a^5)(9a^2)$

8. $3b^4 \times 3^2b^{-1}$

9. $5^2a^2 \times 5^{-3}a^3$

10. $10^{-5}a^2b^3 \times 10^3ab^{-2}$