

Unit 8 Objective 2 Remediation

Power of a Power property

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

To raise a power to a power, multiply the exponents. If there is a coefficient, don't forget to take that to the power.

Examples

1. $(x^2y^4)^3 = x^{2 \cdot 3}y^{4 \cdot 3} = x^6y^{12}$
2. $(3w^5)^2 = 3^2w^{5 \cdot 2} = 9w^{10}$
3. $(-2a^3b^6)^3 = (-2)^3a^{3 \cdot 3}b^{6 \cdot 3} = -8a^9b^{18}$

Try These

- | | |
|-------------------|-----------|
| 1. $(-x^5)^2$ | 1. _____ |
| 2. $(-x^2)^5$ | 2. _____ |
| 3. $(mn^2)^4$ | 3. _____ |
| 4. $(x^2y^3)^5$ | 4. _____ |
| 5. $(3c^4)^2$ | 5. _____ |
| 6. $(-2a^3)^2$ | 6. _____ |
| 7. $(5a^4b^2)^3$ | 7. _____ |
| 8. $(-4y^5z)^3$ | 8. _____ |
| 9. $(2d^4e^5)^5$ | 9. _____ |
| 10. $(-3pqr^2)^4$ | 10. _____ |