

8.2 Key Concepts 3 Exponent Rule When a Power is Raised to Another Exponent Worked Example

Example: Simplify $(d^4)^3$.

Solution: When a power is raised to another exponent, multiply the exponents, and keep the base the same.

$$\begin{aligned}(d^4)^3 &= d^{4 \times 3} \\ &= d^{12}\end{aligned}$$

Practice:

1. Simplify $(8^3)^5$ by writing as a single power.

2. Simplify $\frac{(v^5)^4}{v^{12}}$.

Answers: 1. 8^{15} 2. v^8