



Integer exponents

GRADE 8 MATH

Name _____

Date _____

Simplify or evaluate. Name the law you used each time.

WORKED EXAMPLE

Multiply $\rightarrow$ add exponents. Power of a power $\rightarrow$ multiply them. Divide $\rightarrow$ subtract. $x^0 = 1$.
 $x^{-n} = \frac{1}{x^n}$.

1. Write 3^4 as a product of factors, then evaluate it.

FLUENCY

Show your thinking

Answer

2. Simplify $7^3 \times 7^5$ and $(7^3)^5$.

FLUENCY

Show your thinking

Answer

3. Simplify $2^7 \div 2^4$.

FLUENCY

Show your thinking

Answer

4. Explain why $9^0 = 1$, using the division law.

REASONING

Show your thinking

Answer

5. Evaluate 5^{-2} and 10^{-3} .

APPLICATION

Show your thinking

Answer

6. Simplify $4^2 \div 4^5$, leaving your answer as a positive-exponent fraction.

APPLICATION

Show your thinking

Answer

7. Evaluate $(-2)^4$ and $(-2)^3$. Why do the signs differ?

REASONING

Show your thinking

Answer

8. Is $2^3 \times 3^3$ equal to 6^6 ? Explain.

REASONING

Show your thinking

Answer

9. Simplify $(2^2 \times 2^3)^2$.

APPLICATION

Show your thinking

Answer