

Power Steps Answer Key

1. $x \times x \times x \times x \times x, x^5$
2. $(a \times a \times a \times a) \div (a \times a), a^2$
3. $m \times m \times m \times m \times m \times m \times m, m^7$
4. $(b \times b \times b \times b \times b \times b) \div (b \times b \times b), b^3$
5. $y \times y \times y \times y \times y, y^5$
6. $(c \times c \times c \times c \times c) \div (c \times c \times c \times c), c$
7. $n \times n \times n \times n \times n, n^5$
8. $(p \times p \times p \times p \times p \times p \times p) \div (p \times p \times p \times p \times p), p^2$

Teacher's Guide

- Have students complete the repeated multiplication before simplifying. This builds understanding of why the exponent rules work.
- Encourage students to cross out matching factors in quotient problems before writing the simplified exponent.
- Provide struggling learners with color pencils or highlighters to mark matching factors in the numerator and denominator.
- Challenge advanced students to explain each simplification using the appropriate exponent rule after completing the repeated multiplication.
- Turn the activity into a partner check where one student expands the expression and the other verifies the simplified answer.
- Extend learning by asking students to create two original exponent operation problems and exchange them with a classmate for solving.