

Exponent Laws 2

Power Raised to an Exponent (Power Law)

Expression	Repeated Multiplication	Power Form
$(2^3)^2$		
$(3^2)^4$		
$(5^4)^3$		

Compare the exponents of the expression with the exponents of the power form.

Do you see a pattern???

Example - Power Law

Write each as a single power and then evaluate.

a) $(2^3)^4$

b) $[(-4)^2]^3$

Quotient Raised to an Exponent (Power of a Quotient Law)

Expression	Repeated Multiplication
$\left(\frac{1}{2}\right)^3$	
$\left(\frac{5}{4}\right)^4$	

Compare the exponents of the expression with the exponents of the power form.

Do you see a pattern???

Product Raised to an Exponent (Power of a Product Law)

Expression	Repeated Multiplication	Power Form
$(2 \times 3)^2$		
$(3 \times 5)^4$		

Compare the exponents of the expression with the exponents of the power form.

Do you see a pattern???

Examples - Power of a Quotient Law

Write each as a single power and then evaluate.

a) $\left(\frac{2}{5}\right)^5$

b) $\left[\left(-\frac{1}{3}\right)^2\right]^2$

Examples - Power of a Product Law

Write each as a single power and then evaluate.

a) $(3 \times 7)^3$

b) $[(-2)(5)]^4$

Zero Exponent

Any base raised to the power of zero is always one!

*** Base $\neq 0$ ***

$(3)^0 = 1$

$(-5)^0 = 1$

$(m)^0 = 1$



Complete the following:

Practice - Exponents 2

Check your solutions using the key provided.