

3.3 Exponent Laws Investigation

Product Rule: Complete the following table

Product	Expanded Form	Single Power
$3^2 \cdot 3^4$	$(3 \times 3) \times (3 \times 3 \times 3 \times 3)$ $= 3 \times 3 \times 3 \times 3 \times 3 \times 3$	3^6
$4^3 \cdot 4^3$		
$2^3 \cdot 2^4 \cdot 2^2$		
$k^3 \cdot k^5$		
create your own example		

Describe any trends you see:

Quotient Rule: Complete the following table

Quotient	Expanded Form	Single Power
$5^5 \div 5^3$	$\frac{5 \times 5 \times 5 \times 5 \times 5}{5 \times 5 \times 5}$	5^2
$7^4 \div 7^1$		
$10^6 \div 10^4$		
$x^8 \div x^5$		
create your own example		

Describe any trends you see:

3.3 Exponent Laws Investigation

MPM1D

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Power of a Power Rule: Complete the following table

Power of a Power	Expanded Form	Single Power
$(2^2)^3$	$(2^2) \times (2^2) \times (2^2)$ $= (2 \times 2) \times (2 \times 2) \times (2 \times 2)$ $= 2 \times 2 \times 2 \times 2 \times 2 \times 2$	2^6
$(5^3)^4$		
$(10^4)^2$		
Create your own example		

Describe any trends you see:

Exponent Laws:

Product Rule	$x^a \cdot x^b =$
Quotient Rule	$x^a \div x^b =$
Power of a Power Rule	$(x^a)^b =$
Zero Exponent Rule	$x^0 =$