Sept. 30th, 2014 Oct. 14th, 2015

Week #15 Mar. 13th, 2018

Mini-Lesson #2

Zero Exponent

6^5

5^2 5^3

5^4

Oct 7-10:29 AM

Section 2.2

The

zero exponent

Oct 21-8:17 PM

Discover a pattern:

3^4 $3\times3\times3\times3 = 81$ $\div 3$

3^3 $3\times3\times3 = 27$ $\div 3$

3^2 $3\times3 = 9$ $\div 3$

3^1 $3 = 3$ $\div 3$

3^0 — $= 1$

$3^0 = 1$

Mar 12-12:16 PM

The following demonstrates,using patterns, that any base number (except zero) with 0 as the exponent, will equal 1 when evaluated.

Copy and Complete the table:

Use 10 as your base

Exponent	Power	Repeated Multiplication	Evaluate
5	10^5	10x10x10x10x10	100000
4	10^4	10x10x10x10	10 000
3	10^3	10x10x10	1000
2	10^2	10x10	100
1	10^1	10	10
0	10^0	—	1

Describe any patterns in your table.
Continue the patterns to complete the entries in the last row.

As the exponent decreases, the repeated mult. gets smaller, and the answer gets smaller.
Work with the person next to you and construct another table as the one above. Choose a different base:

I chose 3 as a base

Exponent	Power	Repeated Multiplication	Evaluate
5	3^5	3x3x3x3x3	243
4	3^4	3x3x3x3	81
3	3^3	3x3x3	27
2	3^2	3x3	9
1	3^1	3	3
0	3^0		1

÷3

Oct 22-9:47 AM

We could make a similar table for the powers of any integer base except 0.
So, 1 can be written as any power with exponent 0.
For example, $1 = 2^0$

$1 = 13^0$

$1 = (-5)^0$

-5^0

$-(5)^0$

-1

Oct 7-10:38 AM

Example 1 Evaluating Powers with Exponent Zero

Evaluate each expression.

a) 4^0 b) -4^0 c) $(-4)^0$

Evaluate each expression.

a) $4^0 = 1$ b) $-4^0 = -1$ c) $(-4)^0 = 1$

A Solution

d) $-(-4)^0 = -1(1) = -1$

A power with exponent 0 is equal to 1.

a) $4^0 = 1$ b) $-4^0 = -1$ c) $(-4)^0 = 1$

d) $-(-4)^0 = -1$

Oct 24-8:34 PM

end of Mini-lesson #2

Oct 8-12:38 PM