

Lesson 3-2 Exponents

SWBAT: Use exponents and simplify expressions with exponents.

Exponents:

2 parts to know: 5^4 this is a number with an exponent. The number 5 is called the _____ and the number 4 is called the _____.

The _____ tells us how many times to use the base as a factor (how many times to _____ the base by itself).

Ex: $5^4 = 5 \cdot 5 \cdot 5 \cdot 5 = 625$

Standard form of an exponent is 5^4 .

_____ form of an exponent is $5 \cdot 5 \cdot 5 \cdot 5$

When finding the answer to an exponent **DO NOT** _____
_____!!!

Simplify the following expressions (write in expanded form to help you out):

① 2^5

② 4^3

③ 5^6

Write the following expressions using exponents:

① $3 \cdot 3 \cdot 3 \cdot 3$

② $m \cdot m \cdot m$

③ $3.94 \cdot 3.94$

④ $15 \cdot y \cdot y \cdot y$

Order of operations:

Remember : P E MD AS

① $3(7^2 + 18 \div 2)$

② $5 + (2 + 1)^5$

③ $15^2 - (1 + 13^2)$

④ $(10 - 8)^4 \cdot 3.5$

Challenge: Fill in the boxes with the base and exponent to make the equation true. Find all 4 answers!!

$\square^{\square} = 64$