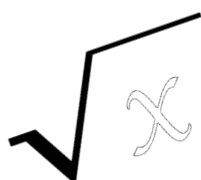
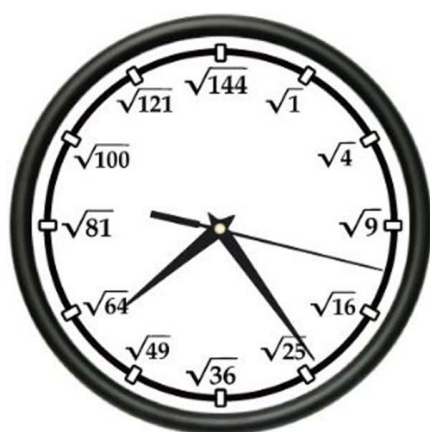
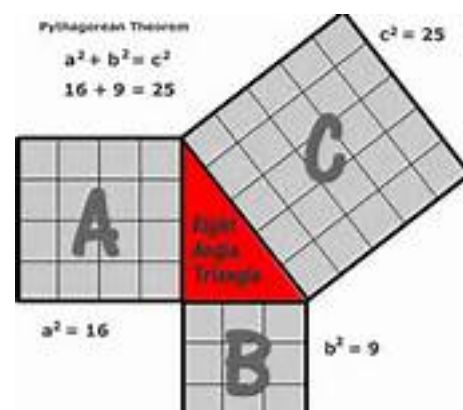




Math 8

Nov. 3, 2025

New Unit Exponents & Square Roots



2^3



Exponents

★ Exponents are shorthand for repeated multiplication:

Ex) $(5)(5) = 5^2$, $(5)(5)(5) = 5^3$.

★ The "exponent" stands for however many times the term is being multiplied.

Exponent

5³

(3 times) $5 \times 5 \times 5 = 125$

★ The term that's being multiplied is called the "base".

Base → 5³

Given 4^3 , 4 is called the base and 3 is the exponent



Together, 4^3 is called a **power**.

power

8³ exponent

base

4^3 means $4 \times 4 \times 4 = 64$.

$4 \times 4 \times 4$ is the expanded form. (repeated \times)

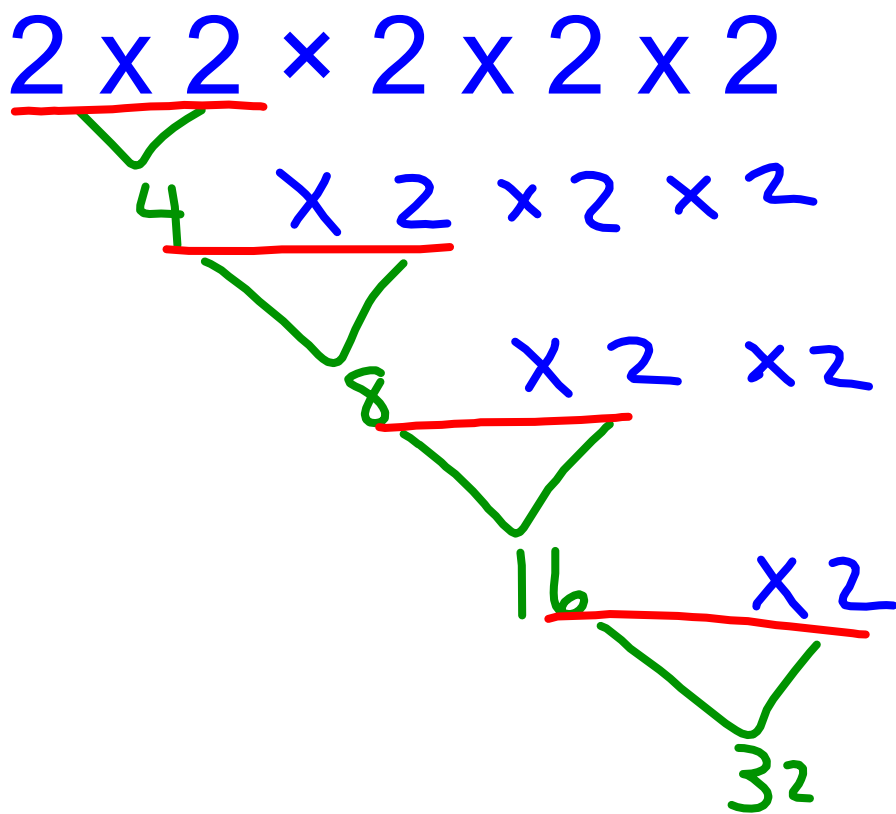
64 is the standard form. (answer off calculator)

4^3 is the exponential form (or the power).

The base is what you are multiplying by, and the exponent tells you how many times to multiply it.

Exponential	Expanded	Standard
2^5 means	$2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$	$2 \cdot \underline{32} = 32$
3^3 means	$3 \times 3 \times 3$	$\underline{27} = 27$
8^4 means	$8 \cdot 8 \cdot 8 \cdot 8$	$8 \cdot \underline{\hspace{1cm}} = 4096$

Evaluate the following(Show all work)



$2^5 = 32$
Power or exponential form Standard

Fill in the blanks
 $6 \times 6 \times 6 \times 6$

base 6

exponent 4

power 6^4

Standard 1296



Calculator Button

x^{\square}



x^y

or

\wedge

or

y^x

or



So for 5^3

$5 \ x^y \ 3$

$5 \ \wedge \ 3$

$5 \ y^x \ 3$

$= 125$

x^2 is a special button that squares a #
(means times the number by itself)

x^2

$$3^2 = 3 \times 3 = 9$$

$$4^3 = \underbrace{4 \times 4}_{16} \times 4 = 64$$

$$8^4 = 4096$$

\wedge
 $8 \times 8 \times 8 \times 8$

Homework

Calculate

	Power	Base	Exponent	Exponential	Expanded Form	Standard
a)	7 ³	7	9	7 ³	7*7*7	343
b)				4		
c)					6 ²	
d)						
e)	3 ⁵					
f)			10	4		
g)	5 ⁴					
h)	4 ⁵					
i)						
j)					3 ⁹	
k)			8	2		
l)						
m)	3 ³					
n)			11	2		
o)			6			
p)				5		