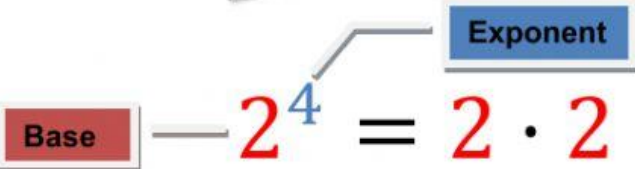


Let's talk about Exponents


 $2^4 = 2 \cdot 2 \cdot 2 \cdot 2 = 16$

The **exponent** of a number says **how many times** to use the number in a multiplication.
 In words: 2^4 can be read "2 to the power of 4" or "2 to the fourth power"

Exponents are also called Powers or Indices.

➤ Complete the table below, follow the example:

Number	Base	Exponent	Read as	Expanded Notation	Value
2^3	2	3	Two cubed	$2 \cdot 2 \cdot 2$	8
3^2			Three squared		
5^4					
^{ }	6	2			
^{ }			Seven squared		
^{ }			Two to the power of six		
^{ }	3	3			
^{ }				$2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$	





Laws of Exponents

Multiplication/Product:

Add the exponents $2^3 \cdot 2^5 = 2^{3+5} = 2^8$

Division/Quocient:

Subtract the exponents $3^8 : 3^2 = 3^{8-2} = 3^6$

Power:

Multiply the exponents $(7^6)^9 = 7^{6 \cdot 9} = 7^{54}$

What if the Exponent is 1, or 0?

1 If the exponent is 1, then you just have the number itself (example $9^1 = 9$)

0 If the exponent is 0, then you get **1** (example $9^0 = 1$).

➤ Let's practice, match every exponent with the correct expression:

a) $9^5 : 9^3$

• 1

b) $10^2 \cdot 10^4$

• 8^7

c) 0^{52}

• 5^{12}

d) 1^{75}

• 7

e) $(5^2)^6$

• 1000

f) 7^1

• 10^6

g) $8^2 \cdot 8^5$

• 0

h) 10^3

• 9^2

