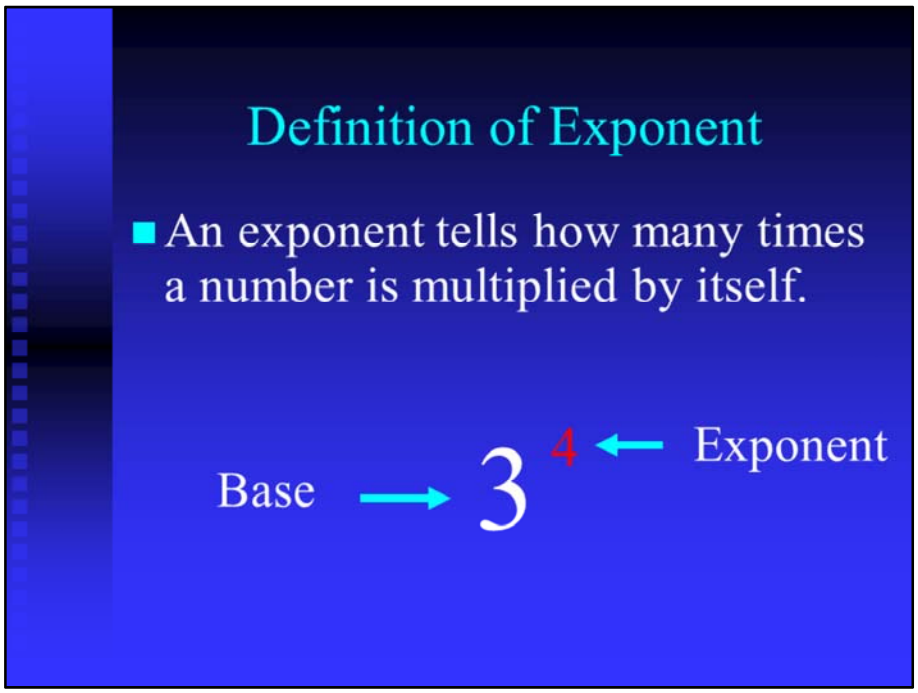
Bellwork

1. What is a translation?
2. What is a reflection and how do you do it?
3. If point A (2,3) what is Point A' after rotating 90 CC?


Exponents

Location of Exponent

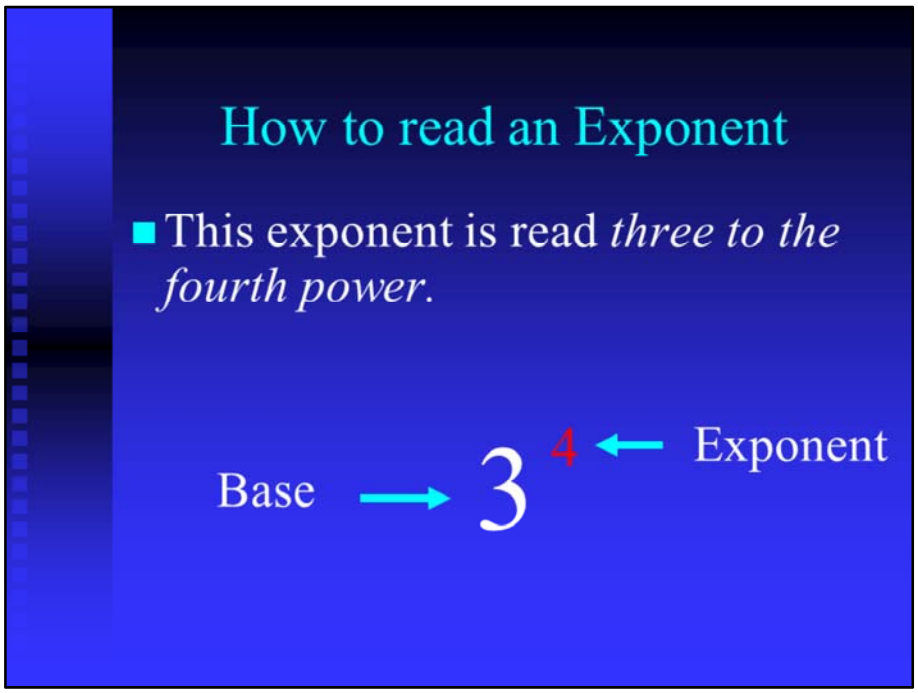
- An exponent is a little number high and to the right of a regular or base number.

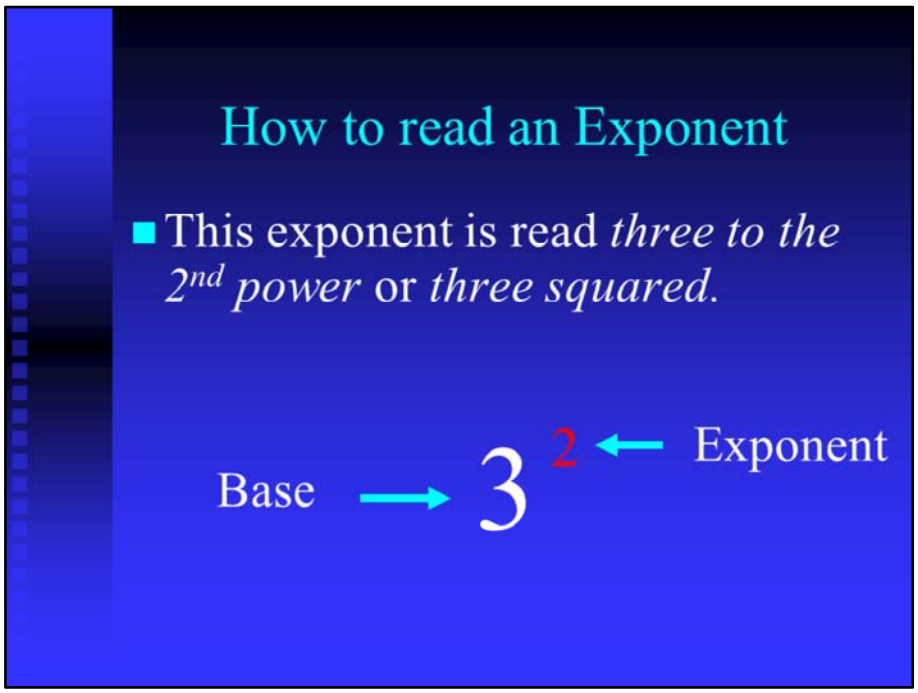

Definition of Exponent
An exponent tells how many times a number is multiplied by itself.
Base
3
4
Exponent

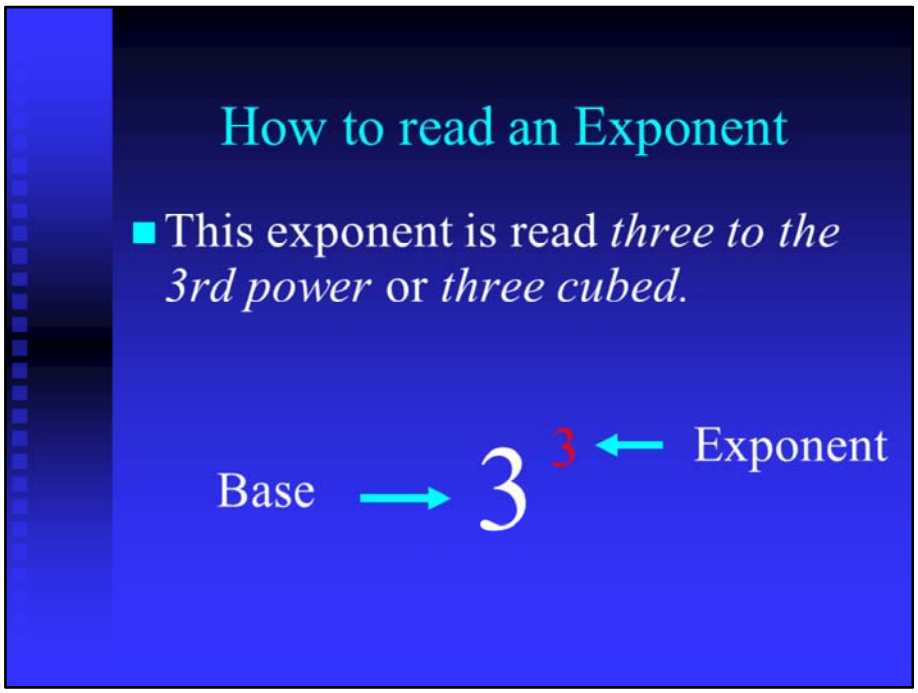
What an Exponent Represents

- An exponent tells how many times a number is multiplied by itself.

$$3^{4} = 3 \times 3 \times 3 \times 3$$

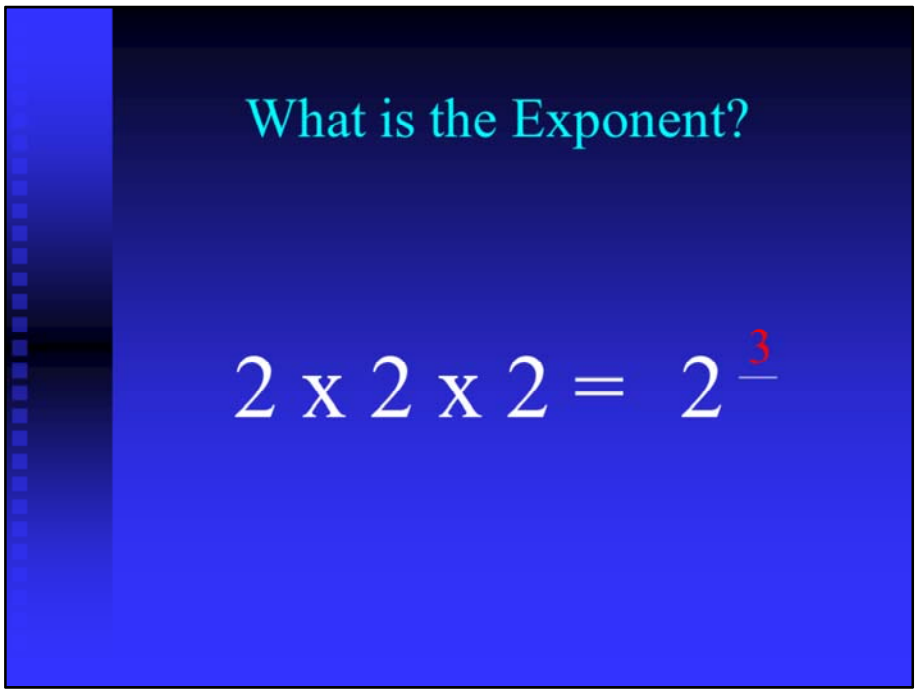

How to read an Exponent
This exponent is read three to the fourth power.
Base
3
4
Exponent

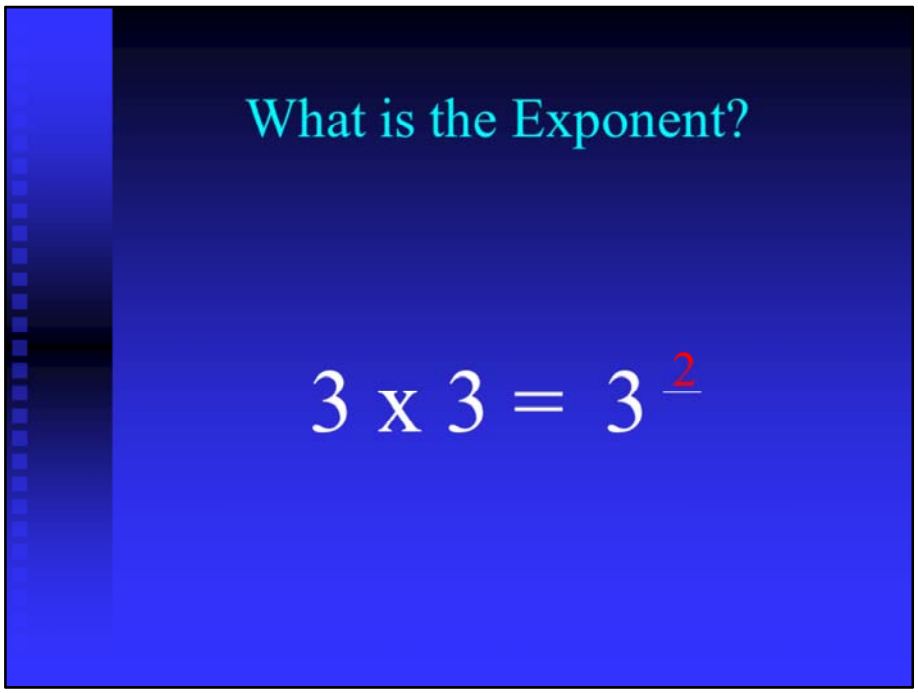

How to read an Exponent
This exponent is read three to the 2nd power or three squared.
Base
3
2
Exponent

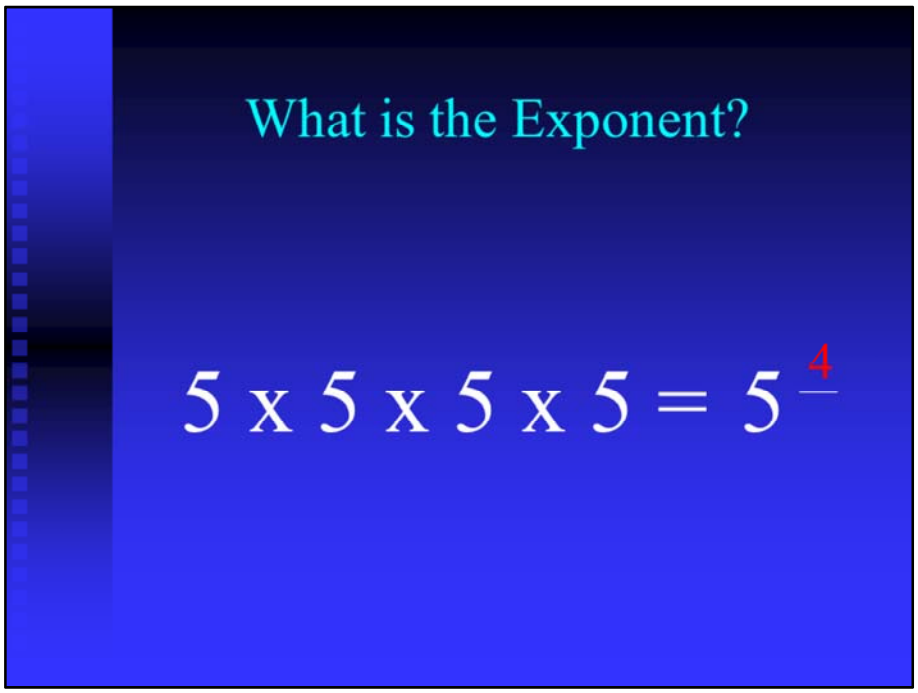

How to read an Exponent
This exponent is read three to the 3rd power or three cubed.
Base
3
3
Exponent

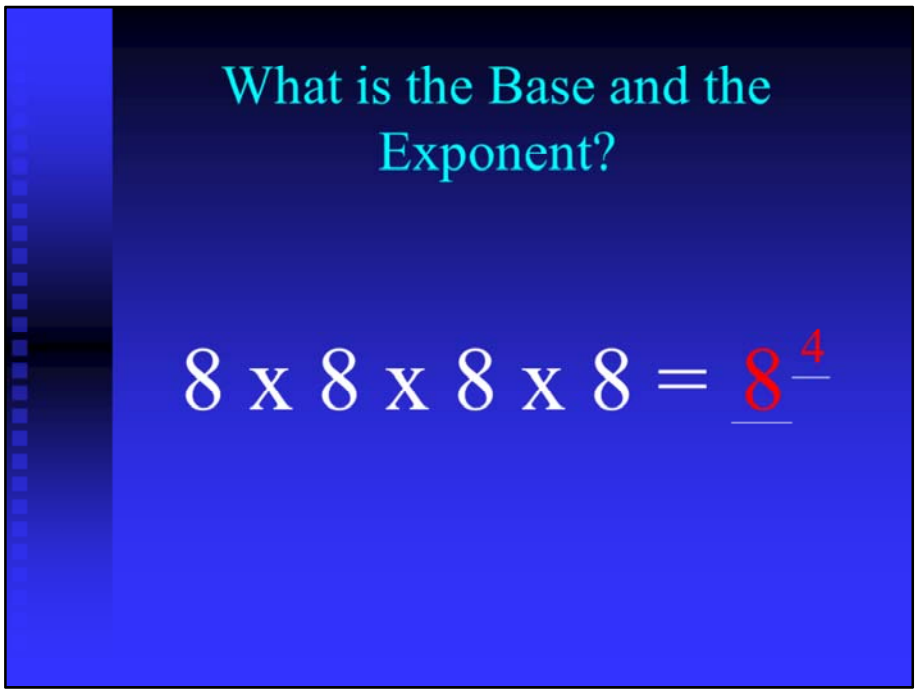

Read These Exponents
3^2 2^3 6^5 7^4

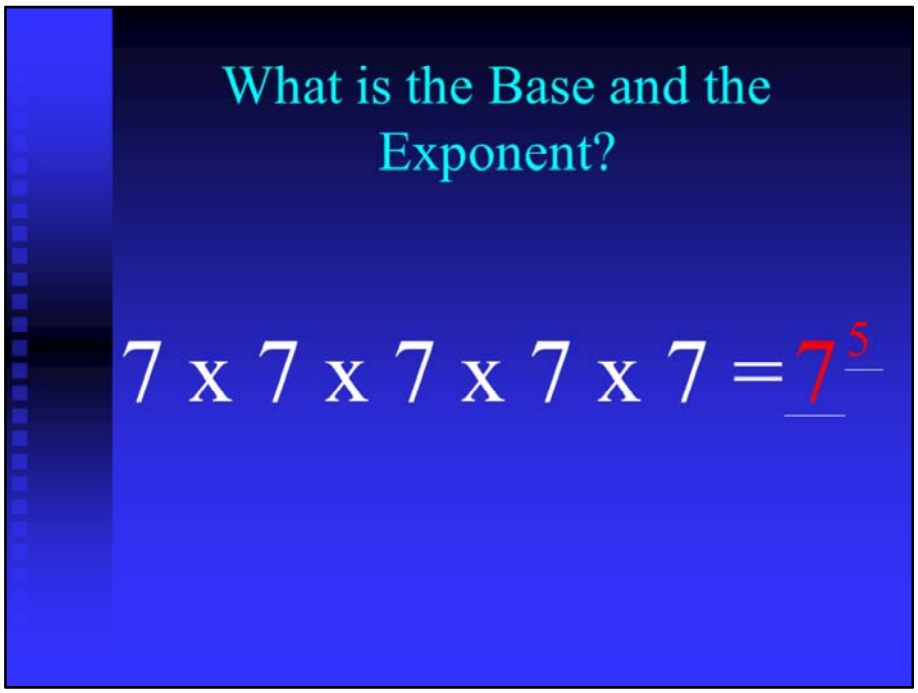

Flocabulary
https://www.flocabulary.com/unit/exponents/

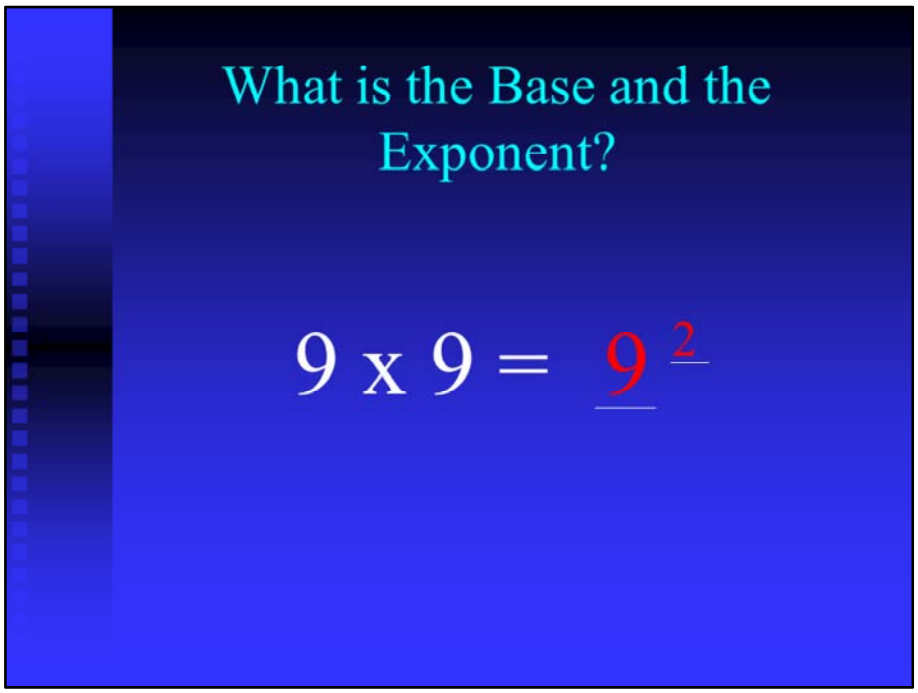

What is the Exponent?
2 x 2 x 2 = 2 3

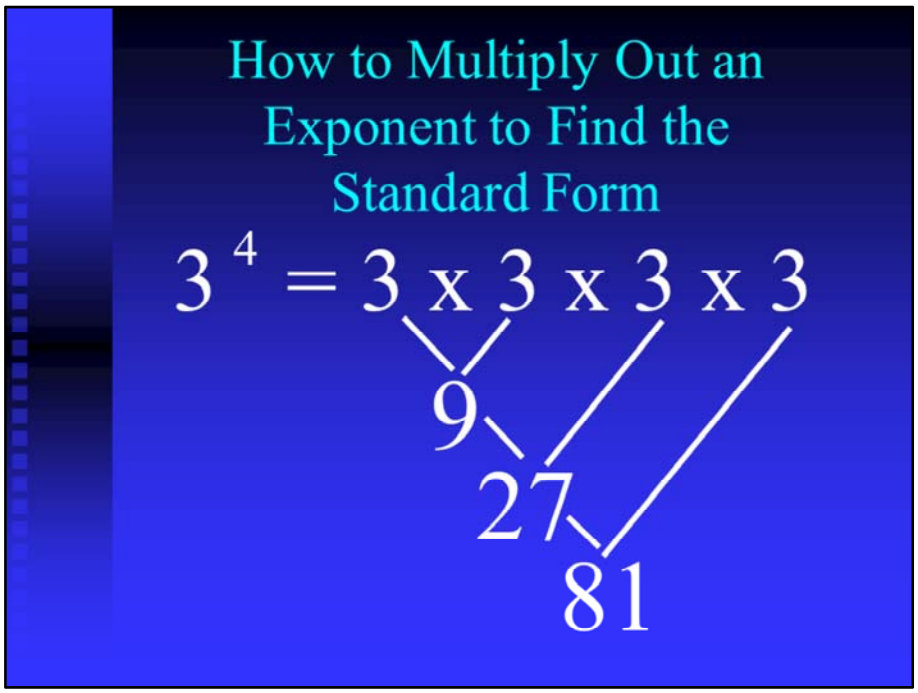

What is the Exponent?
3 x 3 = 3 2

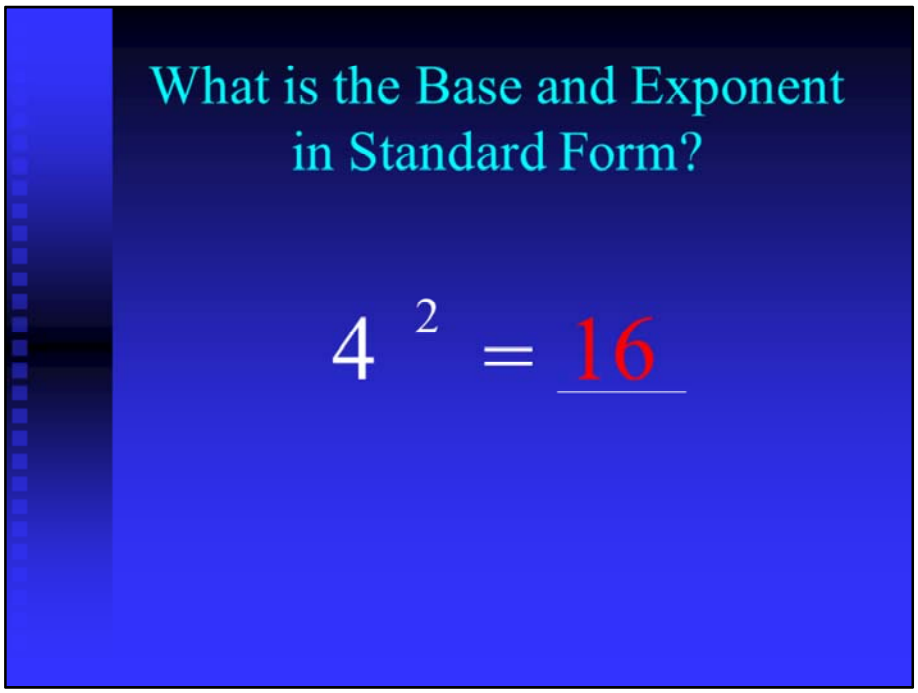

What is the Exponent?
5 x 5 x 5 x 5 = 5 4

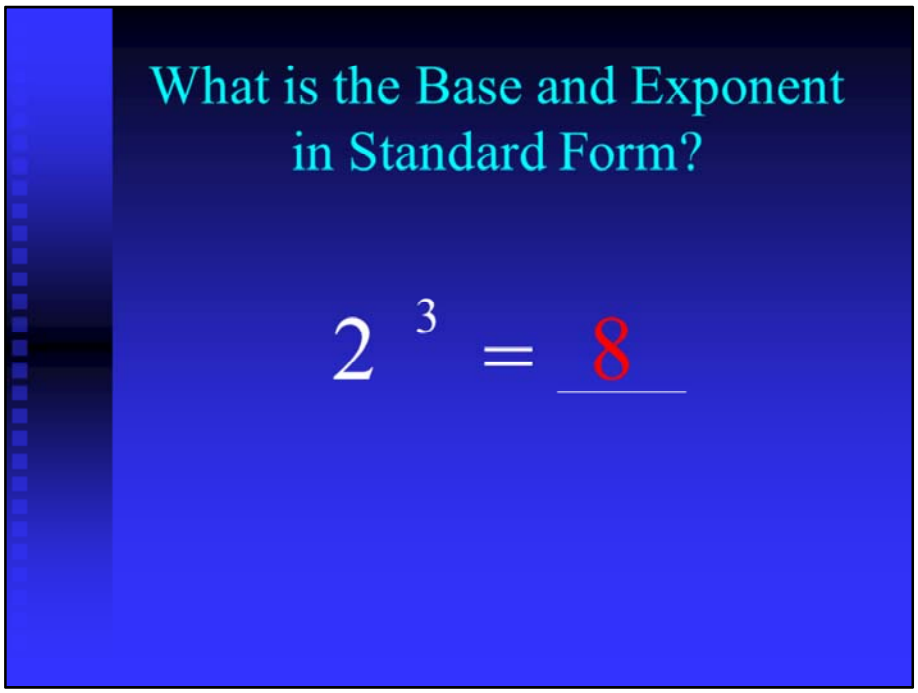

What is the Base and the Exponent?
8 x 8 x 8 x 8 = 8 4

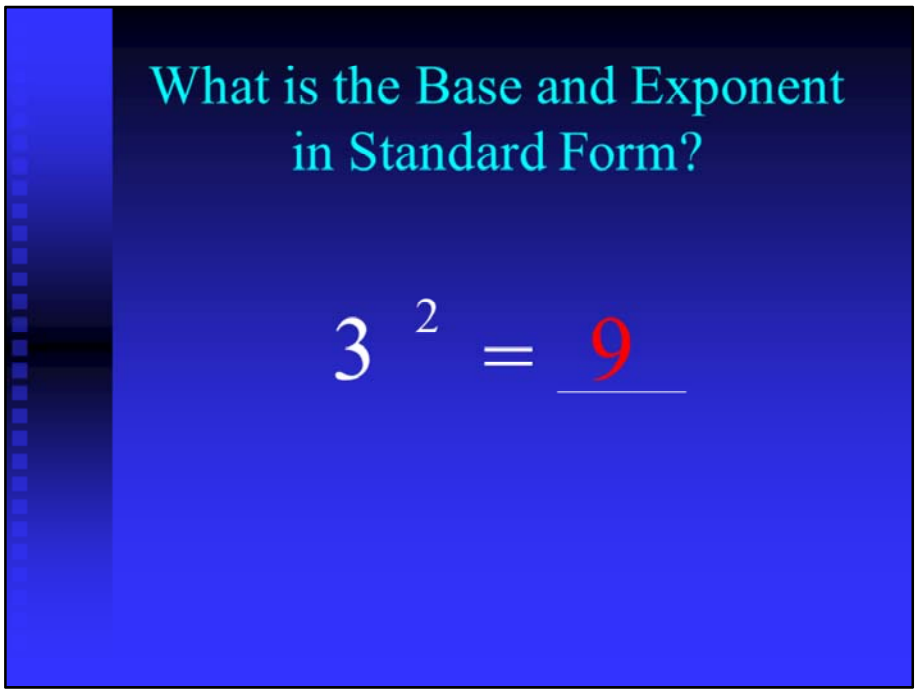

What is the Base and the Exponent?
7 x 7 x 7 x 7 x 7 = 7^5

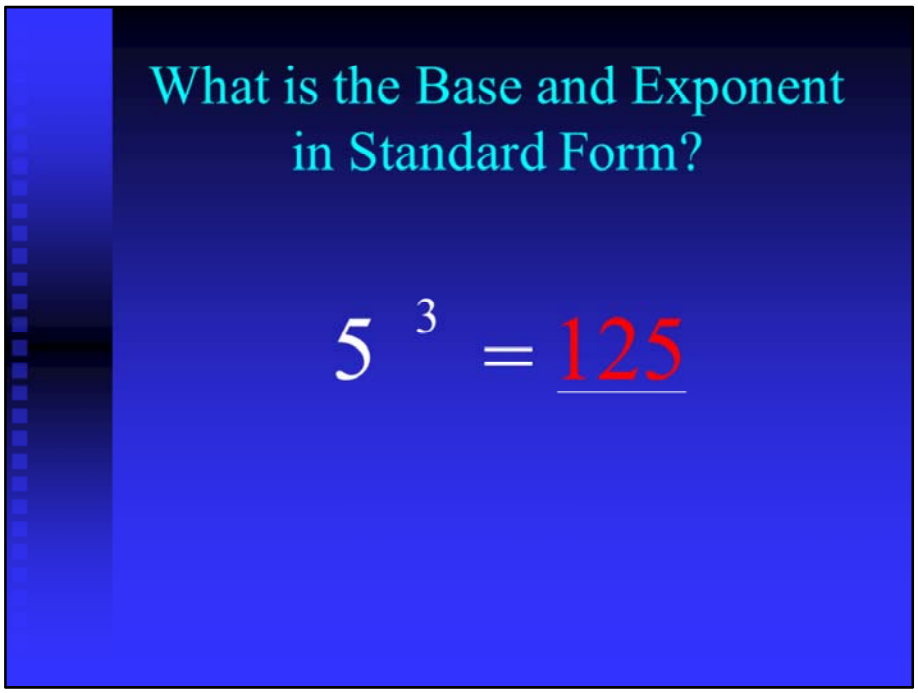

What is the Base and the Exponent?
9 x 9 = 9 2


How to Multiply Out an Exponent to Find the Standard Form
3 4 = 3 x 3 x 3 x 3
9
27
81


What is the Base and Exponent in Standard Form?
4 2 = 16


What is the Base and Exponent in Standard Form?
2 3 = 8


What is the Base and Exponent in Standard Form?
3 2 = 9


What is the Base and Exponent in Standard Form?
$5^{3} = 125$

Exponents Are Often Used in Area Problems to Show the Feet Are Squared

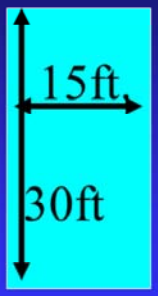
Length x width = area

A pool is a rectangle

Length = 30 ft.

Width = 15 ft.

Area = 30 x 15 = 450 $ft.^2$



Exponents Are Often Used in Volume Problems to Show the Centimeters Are Cubed

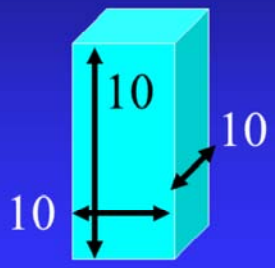
Length x width x height = volume

A box is a rectangle

Length = 10 cm.

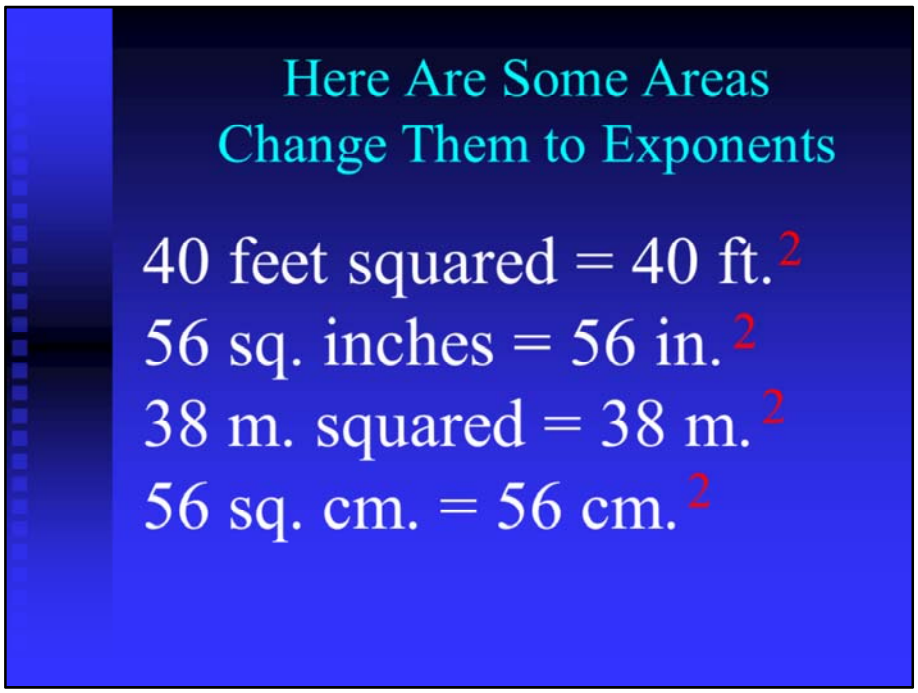
Width = 10 cm.

Height = 20 cm.



Volume =

$20 \times 10 \times 10 = 2{,}000 \text{ cm.}^3$


Here Are Some Areas
Change Them to Exponents
40 feet squared = 40 ft.2
56 sq. inches = 56 in.2
38 m. squared = 38 m.2
56 sq. cm. = 56 cm.2

Here Are Some Volumes
Change Them to Exponents

30 feet cubed = $30\ ft.^3$

26 cu. inches = $26\ in.^3$

44 m. cubed = $44\ m.^3$

56 cu. cm. = $56\ cm.^3$