

# Math 9

- This week and next:
  - > You will be working on a specific task from today, Tuesday, until Thursday.
    - you will get your task number from the list posted in the back.
    - It is posted by your ID number.
  - > Today, we have mini-lessons # 1 (what is a power?) and finish up pre-test, as well as Polynomial TASK sheets from before March break (Week 14)
  - > Tuesday, we have mini-lesson #2 (zero exponent)
  - > Wednesday, we have mini-lesson #3 (order of operations)
  - > This Friday, March 16, there will be a **Quiz** on Exponents (sec 2.1 & 2.2)!
  - > Next Friday, March 23, there will be a **Test** on all of Chapter 2: Exponents!
- Please take a look at your specific task rubric so that you are fully aware of what is expected of you this week.
- Also, remember that **extra help is on Wednesdays at lunch time.**

Sep 15-10:02 PM

Sept. 29th, 2014 Oct. 13th, 2015

## Week #15

## Mar. 12th, 2018

## Mini-Lesson #1

What is a power?

(Sec 2.1)

Oct 7-10:29 AM

Section 2.1  
What is a Power?

Oct 16-10:22 AM


When an integer, other than 0, can be written as a product of equal factors, we can write the integer as a **power**.

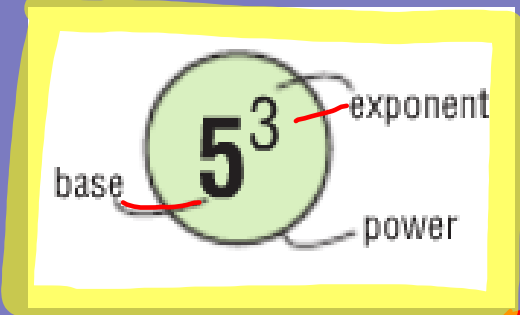
$5^2 = 5 \times 5$

**Notes**

For example,  $5 \times 5 \times 5$  is  $5^3$

$5^3 = 5 \times 5 \times 5$





$10^2 = 100$   
 $11^2 = 121$   
 $12^2 = 144$

$5^4$

5 is the **base**.

3 is the **exponent**.

$5^3$  is the *power*.

$5^3$  is a power of 5.

We say: 5 to the 3rd, or 5 cubed

Oct 20-10:20 PM

## Example 1: Writing Powers

Write as a power.

a)  $3 \times 3 \times 3 \times 3 \times 3 \times 3$

$3^6$

b) 7

$7^1$

► **A Solution**

a)  $3 \times 3 \times 3 \times 3 \times 3 \times 3$

The base is 3. There are 6 equal factors, so the exponent is 6.

So,  $3 \times 3 \times 3 \times 3 \times 3 \times 3 = 3^6$

b) 7

The base is 7. There is only 1 factor, so the exponent is 1.

So,  $7 = 7^1$

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## Example 2: Evaluating Powers

Write as repeated multiplication and (evaluate)

a)  $3^5$

$= 3 \times 3 \times 3 \times 3 \times 3$

$81 \times 3 = 243$   
 $9 \times 9 \times 3 = 81 \times 3 = 243$

► **A Solution**

a)  $3^5 = 3 \times 3 \times 3 \times 3 \times 3$   
 $= 243$

b)  $7^4 = 7 \times 7 \times 7 \times 7$   
 $= 2401$

b)  $7^4 =$

$7 \times 7 \times 7 \times 7$   
 $49 \times 49$

$3$   
 $49$   
 $\times 49$   
 $441$   
 $+1960$   
 $2401$

$2401$

As repeated multiplication  
 Standard form

As repeated multiplication  
 Standard form

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## Example #3: Evaluating Expressions

Notes

$$a) (-3)^4 \quad b) -3^4 \quad c) -(-3)^4$$

$$a) (-3)(-3)(-3)(-3) = +81$$

$$b) -(3)(3)(3)(3) = -81$$

$$c) -(-3)(-3)(-3)(-3) = -81$$

Oct 22-11:01 AM