

# Welcome !

## SET YOUR TABLE FOR LEARNING!

- homework on outer corner of your desk
- calculator on inner corner of your desk
- pencil
- math notes from yesterday

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| Number      | Base | Exponent | How You Read This Number                           |
|-------------|------|----------|--|
| 1. $3^4$    | 3    | 4        | 3 to the 4 <sup>th</sup> power                     |
| 2. $2^5$    | 2    | 5        | 2 to the 5 <sup>th</sup> power                     |
| 3. $1^6$    | 1    | 6        | 1 to the 6 <sup>th</sup> power                     |
| 4. $100^2$  | 100  | 2        | 100 to the 2 <sup>nd</sup> power<br>OR 100 squared |
| 5. $7^6$    | 7    | 6        | 7 to the 6 <sup>th</sup> power                     |
| 6. $6^2$    | 6    | 2        | 6 to the 2 <sup>nd</sup> power<br>OR 6 squared     |
| 7. $12^3$   | 12   | 3        | 12 to the 3 <sup>rd</sup> power<br>OR 12 cubed     |
| 8. $10^4$   | 10   | 4        | 10 to the 4 <sup>th</sup> power                    |
| 9. $3^{10}$ | 3    | 10       | 3 to the 10 <sup>th</sup> power                    |
| 10. $4^3$   | 4    | 3        | 4 to the 3 <sup>rd</sup> power<br>OR 4 cubed       |

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### G. What Does Exponential Notation Really Mean?

1. An exponent tells you how many times to use the base as a factor.
2. Evaluate means find the value of (also called standard form).
3. Steps to follow to evaluate (find the value of) exponential notation:
  - a. Write the base the number of times the exponent tells you.
  - b. Put multiplication signs between the factors. You can also use a dot.
  - c. Now multiply. You have found the value of the exponential form.

\*Note: When you evaluate exponential form, you write an expression, and then you multiply to get the answer which is in standard form.

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### H. Practice Evaluating Exponential Form.

| Exponential Form | Multiplication Problem (Expression)                 | Evaluate - Find the Value Of Standard Form |
|------------------|---|--|
| $0^7$            | $0 \cdot 0 \cdot 0 \cdot 0 \cdot 0 \cdot 0 \cdot 0$ | 0  |
| $56^1$           | $56$  | 56   |
| $3^2$            | $3 \cdot 3$   | 9  |
| $2^5$            | $2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$                 | 32   |
| $6^2$            | $6 \cdot 6$   | 36   |
| $10^3$           | $10 \cdot 10 \cdot 10$                              | 1000                                       |
| $3^4$            | $3 \cdot 3 \cdot 3 \cdot 3$                         | 81   |

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### I. Recompose - means to write

1.  $1 \times 1 \times 1 \times 1 \times 1 \times 1 = 1^6$  exponential form
2.  $6 \times 6 \times 6 \times 6 = 6^4$
3.  $12 \times 12 = 12^2$
4.  $5 \times 5 \times 5 = 5^3$
5.  $7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7 = 7^{10}$
6.  $8 = 8^1$

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### J. Decompose - means to break down to smaller parts.

Write exponential form as a multiplication problem (expression)

- a)  $4^2 = 4 \cdot 4$
- b)  $15^3 = 15 \cdot 15 \cdot 15$

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K. Practice Problems.

1. A large classroom has 12 rows of seats. Each row has 12 seats in it. How many seats are in the classroom? Write the answer in exponential notation. Then decompose it.

$$12^2 = 12 \cdot 12 = 144 \text{ seats}$$



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2. You stacked boxes so that they are 7 boxes high, 7 boxes wide and 7 boxes long. Write the answer in exponential notation. Then decompose it.

$$7^3 = 7 \times 7 \cdot 7 = 343 \text{ boxes}$$

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L. Entering Exponents Into Your Calculator

Exponent Key  Key Sequence for this #  $4^2$  

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Homework:

Pg 16 #19-21, 27-31, 33-37

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