Study the following.

exponent (**ek**-spoh-nuhnt) - a number written to the upper right side of another number, showing how many times that number should be multiplied. (Example: In 3^4, the 4 is the exponent. 3^4 means $3\times3\times3\times3$.)

power (**pou**-ur) - another word for an exponent. The power is how many times you multiply the number. (Example: 3^4 means 3 to the forth power. 3^4 means $3\times3\times3\times3$.)

base (**bayss**) - the bottom number when you have a number to a power. (Example: In 3^4, the 3 is the base.)

squared (**skwaird**) - instead of saying "to the second power" you can say "squared". (6^2 means 6 to the second power, or 6 squared.)

cubed (**kyoobd**) - instead of saying "to the third power" you can say "cubed". (5^3 means five to the third power, or five cubed.)

Squared and cubed are the only two special words to name powers.

Say each word out loud and write it in the blank.

exponent_____
power_____
base_____
squared_____
cubed_____

Write each definition in your own words.

exponent

power

base

squared

cubed

Write 5 examples of each. Write a number to a power, and circle the part that is named by the word.

exponent- 3^{7}

power-

base-

squared-

cubed-

Write the word or words that apply to the circled numbers.

1. 2^{4} _____ or _____

2. 2^{4} _____

3. 4^{2} _____ or _____ or _____

4. 7^{3} _____ or _____ or _____

Matching.

exponent-	another word for an exponent
power-	a number written to the upper right side of another number, showing how many times that number should be multiplied
base-	instead of saying "to the second power" you can say this
squared-	instead of saying "to the third power" you can say this
cubed-	the bottom number when you have a number to a power

Study the following again.

exponent (**ek**-spoh-nuhnt) - a number written to the upper right side of another number, showing how many times that number should be multiplied. (Example: In 3^4, the 4 is the exponent. 3^4 means $3\times3\times3\times3$.)

More examples: Write as a multiplication problem.

$4^3 = 4\times4\times4$
$6^2 = 6\times6$
$10^4 = 10\times10\times10\times10$

Write the following as multiplication problems.

1. $2^3 =$

2. $4^8 =$

3. $7^2 =$

4. $8^4 =$

5. $9^3 =$

Make up 5 examples of bases with exponents, and then write as a multiplication problem.

Study the following.

Writing bases with exponents is a short-cut way of writing multiplication of the same number over and over.

Examples: $3\times3\times3\times3\times3 = 3^5$
$4\times4\times4 = 4^3$

Write these multiplication problems as a base and an exponent.

1. $6\times6\times6\times6 =$

2. $3\times3 =$

3. $9\times9\times9\times9\times9\times9 =$

4. $10\times10\times10 =$

5. $18\times18\times18\times18\times18\times18 =$

Write 5 examples of multiplication problems that multiply the same number. Then write as a base with an exponent.

Study the following.

The next step is to solve exponent problems. First you write an exponent as a multiplication problem, then you multiply all the numbers together.

Examples: $2^4 = 2\times2\times2\times2 = 16$

$3^2 = 3\times3 = 9$

$10^4 = 10\times10\times10\times10 = 10{,}000$

Solve showing the multiplication problem, and then the answer.

1. 2^3 = _____ = _____

2. 4^2 = _____ = _____

3. 10^3 = _____ = _____

Make up 5 examples like the problems above, and solve.

1.

2.

3.

4.

5.

Solve.

1. $2^2 = 2 \times 2 = 4$
2. $3^2 =$
3. $2^3 =$
4. $1^2 =$
5. $7^5 =$
6. $6^4 =$
7. $3^3 =$
8. $8^3 =$
9. $2^6 =$
10. $9^2 =$
11. $5^3 =$