

Name: _____

Exponents

A **power** =
a number written as
a base number with an exponent.

base exponent

Like this:

2^5 say 2 to the 5th power

2^2 say 2 to the 2nd power or two squared

MOST mathematicians say **two squared**

$$2^2 = 2 \times 2 = 4$$

2^3 say 2 to the 3rd power or two cubed

MOST mathematicians say **two cubed**

$$2^3 = 2 \times 2 \times 2 = 8$$

1- CHANGE THE FOLLOWING MULTIPLICATION EXPRESSIONS INTO EXPONENTS:

- 1) $5 \times 5 \times 5 =$ _____
- 2) $4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4 =$ _____
- 3) $7 \times 7 \times 7 \times 7 \times 7 =$ _____
- 4) $8 \times 8 =$ _____
- 5) $2 \times 2 \times 2 \times 2 \times 2 =$ _____
- 6) $9 =$ _____
- 7) $11 \times 11 \times 11 \times 11 =$ _____
- 8) $6 \times 6 \times 6 \times 6 \times 6 \times 6 \times 6 \times 6 \times 6 =$ _____
- 9) $3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 =$ _____
- 10) $5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5 =$ _____

2- COMPLETE:

NUMBER	BASE	EXPONENT	EXPANDED NOTATION
4^3			
	7	4	
	4	7	
5^4			

			$3 \times 3 \times 3 \times 3 \times 3$
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3- FIND THE VALUE OF EACH EXPRESSION:

1) $7^2 =$ _____

2) $5^5 =$ _____

3) $10^3 =$ _____

4) $2^{11} =$ _____

5) $6^0 =$ _____

6) $6^3 =$ _____

7) $3^1 =$ _____

8) $100^2 =$ _____

9) $3^3 =$ _____

10) $6^5 =$ _____

11) $2^5 =$ _____

12) $10^7 =$ _____

4- COMPLETE:

Exponent Form	Expanded Form	Standard form
10^4		
10^7		
	$10 \times 10 \times 10 \times 10 \times 10 \times 10$	
		10,000