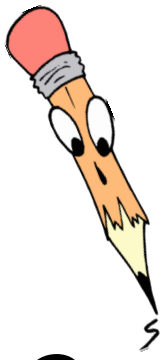
Warm Up
Grade 8



Quiz on this tomorrow



1) Complete the chart

Power	Base	Exponent	Expanded Form	Exponential Form	Standard form
4^7	4	7	4x4x4x4x4x4x4	4^7	16384
2^6	2	6	2x2x2x2x2x2	2^6	64
11^3	11	3	11x11x11	11^3	1331
3^4	3	4	3x3x3x3	3^4	81
7^5	7	5	7·7·7·7·7	7^5	16807
12^3	12	3	12x12x12	12^3	1728

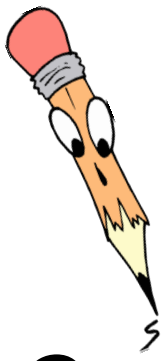
$\boxed{3}^4 = 81$

$1^4 = 1$
$2^4 = 16$
$3^4 = 81$

$7^{\square} = 16807$

$7^1 = 7$
$7^2 = 49$
$7^3 = 343$
$7^4 = 2401$
$7^5 = 16807$

Warm Up
Grade 8



Quiz on this tomorrow



1) Complete the chart

	Power	Base	Exponent	Expanded Form	Exponential Form	Standard form
a)	4^7	4	7	4·4·4·4·4·4·4	4^7	16 384
b)	2^6	2	6	2·2·2·2·2·2	2^6	64
c)	11^3	11	3	11·11·11	11^3	1331
d)	3^4	3	4	3·3·3·3	3^4	81
e)	7^5	7	5	7·7·7·7·7	7^5	16807
f)	12^3	12	3	12x12x12	12^3	1728

d) $\square^4 = 81$

$1^4 = 1$

$2^4 = 16$

$3^4 = 81$

e) $7^{\square} = 16807$

$7^1 = 7$

$7^2 = 49$

$7^3 = 343$

$7^4 = 2401$

$7^5 = 16807$

Solution to Homework

	Power	Base	Exponent	Exponential Form	Expanded
a)	7^3	7	3	7^3	7x7x7	343
b)	9^4	9	4	9^4	9x9x9x9	6561
c)	6^2	6	2	6^2	6x6	36
d)	4^5	4	5	4^5		1024
e)	3^5	3	5	3^5	3x3x3x3x3	243
f)	10^4	10	4	10^4	10x10x10x10	10000
g)	5^4	5	4	5^4	5x5x5x5	625
h)	4^5	4	5	4^5	4x4x4x4x4	1024
i)	8^3	8	3	8^3	3^9	512
j)	3^9	3	9	3^9	3x3x3x3x3x3x3x3x3	19683
k)	8^2	8	2	8^2	8x8	64
l)	3^3	3	3	3^3	3x3x3	27
m)	5^6	5	6	5^6		15625
n)	11^2	11	2	11^2	11x11	121
o)	6^4	6	4	6^4	6x6x6x6	1296
p)	2^5	2	5	2^5	2x2x2x2x2	32

Ex. 1)

Find the missing exponent. (Show Work)

$4^{\boxed{5}} = 1024$

$4^1 = 4$
$4^2 = 16$
$4^3 = 64$
$4^4 = 256$
$4^5 = 1025$

$7^{\boxed{3}} = 343$

$7^1 = 7$
$7^2 = 49$
$7^3 = 343$

Ex. 2)

Find the missing base.

$\underline{\quad 6 \quad}^2 = 36$

$1^2 = 1$
$2^2 = 4$
$3^2 = 9$
$4^2 = 16$
$5^2 = 25$
$6^2 = 36$

$\underline{\quad 12 \quad}^3 = 1728$

$1^3 = 1$
$2^3 = 8$
$3^3 = 27$
$4^3 = 64$
$5^3 = 125$
$6^3 = 216$
$7^3 = 343$
$8^3 = 512$
$9^3 = 729$
$10^3 = 1000$
$11^3 = 1331$
$12^3 = 1728$

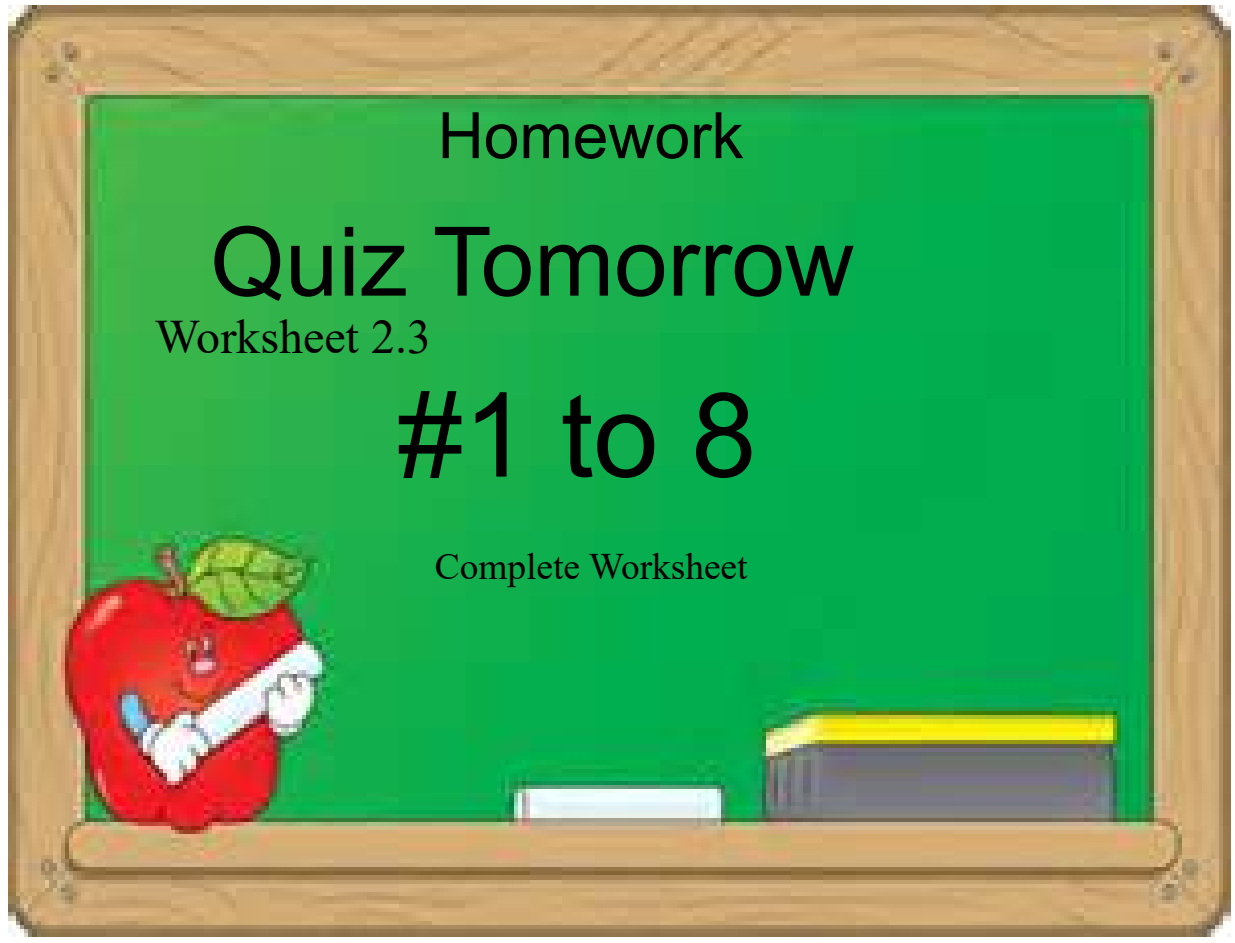
Ex. 3)

Place a < , > or = in the box. (Show your calculation)

$3^5 \ \boxed{>} \ 6^3$

$3^5 = 243$
$6^3 = 216$

Bigger


Homework
Quiz Tomorrow
Worksheet 2.3
#1 to 8
Complete Worksheet

1a) 6^3

Base ⇒ 6

exp ⇒ 3

b)

c)

d)

2) $3^5 \Rightarrow 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 = 243$

$5^3 \Rightarrow 5 \cdot 5 \cdot 5 = 125$

$2^3 = 8$ $\quad 2 \cdot 2 \cdot 2$

$3^2 = 9$ $\quad 3 \cdot 3$

What do we notice?

3^1 =

10^1 =

12^1 =

17^1 =

27^1 =

99^1 =

10^0 =

2^0 =

81^0 =

21^0 =

13^0 =

5^0 =

Exponents

Whenever you have an exponent of 2, it is said to be squared. 3^2 might be read as 3 squared.

Whenever you have an exponent of 3, it is said to be cubed. 5^3 might be read as 5 cubed.

If the base is raised to the exponent 1, then the answer will always be the base itself.

examples: $15^1 = 15$ $24^1 = 24$ $6\,893^1 = 6\,893$

If the base is raised to the exponent 0, then the answer will always be 1.

examples: $26^0 = 1$ $147^0 = 1$ $945^0 = 1$

Discuss using a calculator

x^y or y^x or $\sqrt{y}$