

Warm Up
Grade 8

Quiz Thursday

↳ Tomorrow



$1, x^y, \square$

1) Complete the chart

Power	Base	Exponent	Expanded Form	Exponential Form	Standard form
4^7	4	7	$4 \cdot 4 \cdot 4 \cdot 4 \cdot 4 \cdot 4 \cdot 4$	4^7	16 384
2^6	2	6	$2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$	2^6	64
11^3	11	3	$11 \cdot 11 \cdot 11$	11^3	1331
3^4	3	4	$3 \cdot 3 \cdot 3 \cdot 3$	3^4	81
7^5	7	5	$7 \cdot 7 \cdot 7 \cdot 7 \cdot 7$	7^5	16807
12^3	12	3	$12 \cdot 12 \cdot 12$	12^3	1728

$$\boxed{3^4} = 81$$

$$1^4 = 1$$

$$2^4 = 16$$

$$\boxed{3^4 = 81}$$

$$7^5 = 16807$$

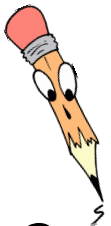
$$7^1 = 7$$

$$7^2 = 49$$

$$7^3 = 343$$

$$7^4 = 2401$$

$$\boxed{7^5 = 16807}$$



Solutions *Warm Up*



1) Complete the chart

Power	Base	Exponent	Expanded Form	Exponential Form	Standard form
4^7	4	7	$4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4$	4^7	16384
2^6	2	6	$2 \times 2 \times 2 \times 2 \times 2 \times 2$	2^6	64
11^3	11	3	$11 \times 11 \times 11$	11^3	1331
3^4	3	4	$3 \times 3 \times 3 \times 3$	3^4	81
7^5	7	5	$7 \times 7 \times 7 \times 7 \times 7$	7^5	16807
12^3	12	3	$12 \times 12 \times 12$	12^3	1728

Solution to Homework

	Power	Base	Exponent	Exponential Form	Expanded Form	Standard Form
a)	7^3	7	3	7^3	$7 \times 7 \times 7$	343
b)	9^4	9	4	9^4	$9 \times 9 \times 9 \times 9$	6561
c)	6^2	6	2	6^2	6×6	36
d)	4^5	4	5	4^5	$4 \times 4 \times 4 \times 4 \times 4$	1024
e)	3^5	3	5		$3 \times 3 \times 3 \times 3 \times 3$	243
f)	10^4	10	4	10^4	$10 \times 10 \times 10 \times 10$	10000
g)	5^4	5	4	5^4	$5 \times 5 \times 5 \times 5$	625
h)	4^5	4	5	4^5	$4 \times 4 \times 4 \times 4 \times 4$	1024
i)	8^3	8	3	8^3	$8 \times 8 \times 8$	512
j)	3^9	3	9	3^9	$3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3$	19683
k)	8^2	8	2	8^2	8×8	64
l)	5^6	5	6	5^6	$5 \times 5 \times 5 \times 5 \times 5 \times 5$	15625
m)	3^3	3	3	3^3	$3 \times 3 \times 3$	27
n)	11^2	11	2	11^2	11×11	121
o)	6^4	6		6^4	$6 \times 6 \times 6 \times 6$	1296
p)	2^5	2	5	2^5	$2 \times 2 \times 2 \times 2 \times 2$	32

Ex. 1)

Find the missing exponent. (Show Work)

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

$$4^1 = 4$$

$$4^2 = 16$$

$$4^3 = 64$$

$$4^4 = 256$$

$$4^5 = 1024$$

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

$$7^1 = 7$$

$$7^2 = 49$$

$$7^3 = 343$$

Ex. 2)

Find the missing base.

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

$$1^2 = 1$$

$$5^2 = 25$$

$$2^2 = 4$$

$$6^2 = 36$$

$$3^2 = 9$$

$$4^2 = 16$$

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

Ex. 3)

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

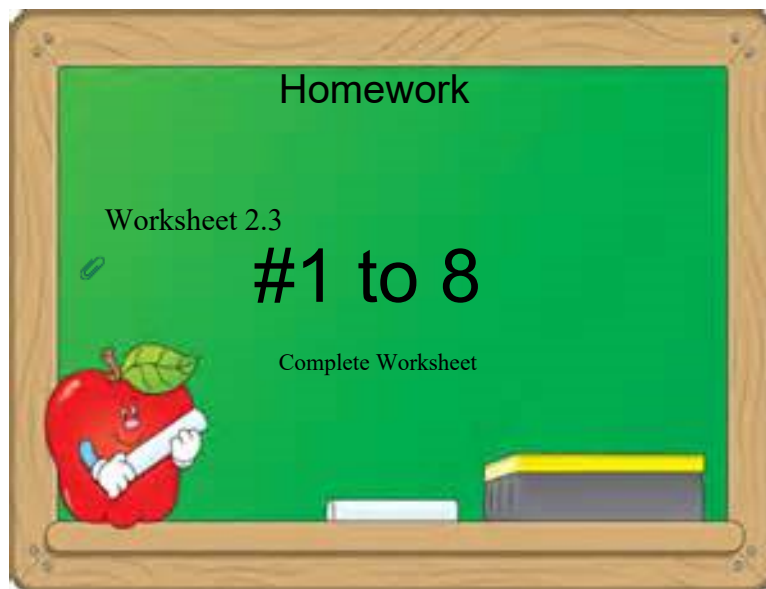
$$3^5 \quad \boxed{>} \quad 6^3$$

$$243$$

$$216$$

Bigger

Quiz Wednesday



1a) 6^3
base $\Rightarrow 6$
exp $\Rightarrow 3$
b)

Quiz Tomorrow

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 $y \wedge$

Attachments

WS 2.3 Powers.doc