

1. Complete the following table.

Power	Base	Exponent	Repeated Multiplication	Standard Form
$(-3)^5$	-3	5	$(-3)(-3)(-3)(-3)(-3)$	-243
2^6	2	6	$2 \times 2 \times 2 \times 2 \times 2 \times 2$	64
8^3	8	3	$8 \times 8 \times 8$	512
$\left(\frac{2}{3}\right)^4$	$\frac{2}{3}$	4	$\left(\frac{2}{3}\right)\left(\frac{2}{3}\right)\left(\frac{2}{3}\right)\left(\frac{2}{3}\right)$	$\frac{16}{81}$
-5^2	5	2	$-(5)(5)$	-25
$(-4)^3$	-4	3	$(-4)(-4)(-4)$	-64

2. Evaluate each power

a) $(-3)^2 = 9$ b) $-3^2 = -9$ c) $(-2)^3 = -8$ d) $-2^3 = -8$

e) $6^0 = 1$ f) $(-6)^0 = 1$ g) $-6^0 = -1$ h) $-(-6)^0 = -1$

i) $(-1)^{50} = 1$ j) $(-1)^{31} = -1$

Multiple choice

3. Which power does not represent 64?

a) $2 \times 2 \times 2 \times 2 \times 2 \times 2$ b) 4^3 c) 2^5 d) $(-2)^6$

4. Which statement is true?

a) $-5^2 = 25$ b) $(-7)^2 = -49$ c) $3^2 = 2^3$ d) $-2^4 = -(2)(2)(2)(2)$

5. Arrange from least to greatest.

$81, -81, 1, -1, 9$
 $(-3)^4, -3^4, (-1)^{60}, (-1)^{23}, -(-3)^2$
 $-3^4, -(-3)^2, (-1)^{23}, (-1)^{60}, (-3)^4$

6. Arrange from least to greatest

$2^2, 3^2, 8^1, 6^4, 3^3, 3^6$
 $5^2, 2^5, 3^4, 4^3, 2^6, 6^2$
 $5^2, 2^5, 6^2, 4^3, 2^6, 3^4$

7. Evaluate each of the following $(-2)^3$

a) $(-2)^0$ b) $(-2)^1$ c) $(-2)^2$ d) $(-2)^4$ e) $(-2)^5$ f) $(-2)^6$
 1 -2 4 16 -32 64

8. Show each repeated multiplication as a power

a) $a \times a \times a \times a \times a \times a \times a$ b) $-(x)(x)(x)(x)$ c) $(-n)(-n)$ d) $(r \times r \times r) \times (r \times r)$
 a^6 $-(x)^4$ $(-n)^2$ ~~r^5~~

9. Show the following numbers in exponent form

a) 49 b) 27 c) 125 d) -32
 7^2 3^3 5^3 $(-2)^5$

10. Ian has 9 red marbles, 25 blue ones, 8 white ones, and 49 black ones
Write an equation, using powers to represent the total number of marbles

$9 + 25 + 8 + 49$
 $3^2 + 5^2 + 2^3 + 7^2$