Warm-Up October 11,2016

Repeated multiplication	Base	Power	Evaluate
A. -6 x -6 x -6	-6	$(-6)^3$	-216
B. - (-2) (-2)(-2)	-2	$-(-2)^3$	8
C. - 1 x 1 x 1 x 1	1	$-(1)^4$	-1

2. Write as a repeated multiplication and evaluate

A. $-(-5)^4 = -625$ $-(-5x-5x-5x-5)$

B. $-3^6 = -729$ $-(3x3x3x3x3x3)$

C. $(-4)^3$ $-4x-4x-4$ -64

3. Write the following as a power: 64

4^3 8^2

64^1 2^6

4. Write as a repeated multiplication and evaluate

	Power	Repeated multiplication	Evaluate
a)	10^3	10x10x10	1000
b)	10^5	10x10x10x10x10	100 000
c)	10^7	10 x10x10x10x10x10x10	10 000 000

$10^6 = 1\,000\,000$

$10^2 = 100$

$10^1 = 10$

$10^0 = 1$

Section 2.2
Powers of Ten and Zero Exponents

Zero Exponent Law

(positive/negative)

A power with an integer base, other than 0, and an exponent of 0 is equal to 1

Evaluate

a) $(-2)^0$ 1

b) $-(-4)^0$ -1

c) -2^0 -1

Power	Base	Evaluate
a) -5^0	5	-1
b) $(-2)^0$	-2	1
c) $-(-62)^0$	-62	-1
d) $-(5)^0$	5	-1

three thousand two hundred sixty two

standard form

3 262

$1000 = 10^3$
$100 = 10^2$
$10 = 10^1$
$1 = 10^0$

Expanded form

$3000 + 200 + 60 + 2$

Power of 10

$(3 \times 10^3) + (2 \times 10^2) + (6 \times 10^1) + (2 \times 10^0)$

Write 96 713 as a power of 10

Expanded form

$90\,000 + 6000 + 700 + 10 + 3$

Power of 10

$(9 \times 10^4) + (6 \times 10^3) + (7 \times 10^2) + 1 \times 10^1 + 3 \times 10^0$

Write using powers of 10

a) 3 528

Expanded Form $3000 + 500 + 20 + 8$

Power of 10 $(3 \times 10^3) + (5 \times 10^2) + 2 \times 10^1 + 8 \times 10^0$

b) 600

6×10^2

Write in standard form

$3 \times 10^2 + 6 \times 10^4 + 3 \times 10^0 + 8 \times 10^6$

$8 \times 10^6 + 6 \times 10^4 + 3 \times 10^2 + 3 \times 10^0$

8 060 303

10^3

1000

Evaluate

a) $-(-5)^0$

-1

b) -326^0

-1

c) $(-51)^0$

1

Homework

1 billion = 10^9

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#4, 5 > chart
Power | Evaluate

6, 8, 9 [a, c, e], 10 all

$10^5 = 100\,000$

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