Name:_____ Class: _____

Practice - Exponents 3

1) Evaluate each of the following:

a) $2(4^3)$

$2 \cdot 64$

128

b) $3(-7)^2$

$3 \cdot 49$

147

c) $-5(2^4)$

$-5 \cdot 16$

-80

d) $2(-3^2)$

$2(-1 \cdot 9)$

$2(-9)$

-18

2) Find the value of each of the following:

a) $2^2 + 2^2$

$4 + 4$

8

b) $(3+7)^2 - 15$

$(10)^2 - 15$

$100 - 15$

85

c) $6^3 - 3(-5)^3$

$216 - 3(-125)$

$216 + 375$

591

d) $11 + (-3)^3 - 3(-6^2)$

$11 + (-27) - 3(-1 \cdot 36)$

$11 - 27 - 3(-36)$

$11 - 27 + 108$

92

3) Evaluate each of the following:

a) $8 - 3(2^2)$

$8 - 3(4)$

$8 - 12$

-4

b) $(-5-3)^2 + (-4)^2$

$(-8)^2 + (16)$

$64 + 16$

80

c) $(-2)^6 \div 4^2$

$64 \div 16$

4

d) $24 - 3^2 + (7^2 - 5^2)$

$24 - 9 + (49 - 25)$

$24 - 9 + 24$

39

4) Write each as a single power. Then, evaluate each power.

a) $\frac{2^3 \cdot 2^7}{2^6}$

$\frac{2^{3+7}}{2^6}$

$\frac{2^{10}}{2^6}$

2^4 OR 16

b) $\frac{(2^3)^4}{2^9}$

$\frac{2^{3 \cdot 4}}{2^9}$

$\frac{2^{12}}{2^9}$

2^3 OR 8

c) $\frac{(10^4)^5}{(10^2)^8}$

$\frac{10^{4 \cdot 5}}{10^{2 \cdot 8}}$

$\frac{10^{20}}{10^{16}}$

10^4 OR 10000

d) $\frac{(-3)^6 \cdot (-3)}{(-3)^4}$

$\frac{(-3)^{6+1}}{(-3)^4}$

$\frac{(-3)^7}{(-3)^4}$

$(-3)^3$ OR -27

Review of Exponent Laws Order of Operations: ☺ 😐 ☹

Outcome: N2 - Know the exponent laws and be able to use them

5a) 3 b) 7 c) 6,049