

Chapter 3 Review

Name: _____

Date: _____

POWERS AND EXPONENTS

base \rightarrow 8^3 \leftarrow exponent

$$8^3 = 8 \times 8 \times 8$$

power (exponential form) repeated multiplication

$$(-9)^2$$

base = -9

$$(-9) \times (-9) = 81$$

vs. -9^2

power is negative (coefficient = -1) base = 9

$$-1(9)^2 = -1 \times (9 \times 9)$$

$$= -81$$

don't forget... anything⁰ = 1 (except zero)

EXPONENT LAWS

PRODUCT OF POWERS

$$2^4 \times 2^9 = 2^{4+9}$$

$$= 2^{13}$$

$$(5^2)^{10} = 5^{2 \times 10}$$

$$= 5^{20}$$

POWER OF A POWER

QUOTIENT OF POWERS

$$\frac{9^4}{9} = 9^4 \div 9^1$$

$$= 9^{4-1}$$

$$= 9^3$$

$$[6 \times (-2)]^5 = 6^5 \times (-2)^5$$

POWER OF A PRODUCT

$$\left(\frac{2}{7}\right)^8 = \frac{2^8}{7^8}$$

POWER OF A QUOTIENT

ORDER OF OPERATIONS

BE DMAS

base \rightarrow $9 \times (-2)^7$ \leftarrow exponent


coefficient \uparrow

$$9 \times (-2)^7 = 9(-128)$$

$$= -1152$$

FORMULAS


cube



SA = $6 \cdot s^2$

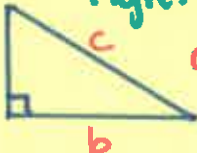
V = s^3

square



A = s^2

right triangle



$a^2 + b^2 = c^2$

circle



A = πr^2