

TOPIC: INTEGERS & THE ORDER OF OPERATIONS

Intro to Exponents

- ◆ When a number is multiplied by itself _____, it can be written using exponents.
 - ▶ The **base** is the number being _____ & the **exponent/power** is how many _____ the base is multiplied.

New

Exponent Notation

$$\underbrace{8 \cdot 8 \cdot 8 \cdot 8}_{\text{4 times}} = \text{" } \underline{\hspace{1cm}} \text{ to the } \underline{\hspace{1cm}} \text{ power"}$$

__ multiplied __ times

$$\underbrace{b \cdot b \cdot b \cdot \dots \cdot b}_{\text{... times}} = \text{" } \underline{\hspace{1cm}} \text{ to the } \underline{\hspace{1cm}} \text{ power"}$$

(General Exponent Notation)

__ multiplied __ times

EXAMPLE

Find the value of each exponential expression by rewriting as a product.

(A)	7^2	"7 _____"
(B)	10^3	"10 _____"
(C)	2^5	

- ◆ A number with *NO* exponent implies an exponent of ____, $b = b$ —.

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PRACTICE

Rewrite each product as an exponential expression.

(A) $3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3$

(B) $\left(\frac{2}{9}\right) \times \left(\frac{2}{9}\right) \times \left(\frac{2}{9}\right) \times \left(\frac{2}{9}\right) \times \left(\frac{2}{9}\right)$

PRACTICE

Evaluate the following.

(A) 13^1

(B) 7^3

(C) 2^8

EXAMPLE

Evaluate the following.

(A) $\left(\frac{1}{3}\right)^4$

(B) $\left(\frac{7}{4}\right)^3$

EXAMPLE

Write as an expression containing exponents.