TOPIC: EVALUATING EXPONENTS

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**

$\underbrace{8 \cdot 8 \cdot 8 \cdot 8}_{\text{__ multiplied __ times}} =$ *"___ to the ____ power"*

$\underbrace{b \cdot b \cdot b \cdot \ldots \cdot b}_{\text{__ multiplied __ times}} =$ *"___ to the ____ power"*

(General Exponent Notation)

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