Name_____Hour_____

Prime Time Lesson 3.2 pages 46-47

Find the prime factorization of 36. Expanded Form=_____

Exponential Form = _____

Use the prime factorization of 36 to find all of its factors.

Find a multiple of 36. _____ What does the prime factorization of this multiple have in common with the prime factorization of 36?

Write the prime factorization of each number below using exponents.

a. 10= _____ b. 100= _____ c. 1,000= _____ d. 10,000= _____

The numbers 10; 100; 1,000; 10,000 can be written as ***powers of 10***.

$10 = 10^1$ $100 = 10^2$ $1{,}000 = 10^3$ $10{,}000 = 10^4$

How can you use the prime factorization of the powers of 10 to find the prime factorization of 270,000?

The prime factorization of a number is $2^4 \times 3^2 \times 5$. What is the number?_____

Is $2^2 \times 3$ a factor of the number ? _____ Explain

Mari claims that $2^5 \times 3^2 \times 5$ is a multiple of the number. Is she correct? _____Explain.