Name_____ Hour _____

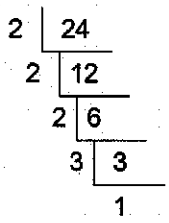
Prime Factorization Using the Ladder Method

- Prime Factorization of a number is the number written as the product of its prime factors.

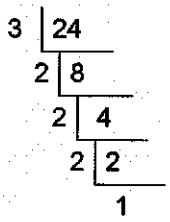
Write the prime factorization of 24

(using a ladder)

Choose a prime factor of 24 to begin. Keep dividing by prime factors until the quotient is 1.



$24 = 2 \cdot 2 \cdot 2 \cdot 3$



$24 = 3 \cdot 2 \cdot 2 \cdot 2$

The prime factorization of 24 is $2 \cdot 2 \cdot 2 \cdot 3$

WHEN YOU GET TO ONE, YOU'RE DONE!

Choose a prime factor of 45 to begin. Keep dividing by prime factors until the quotient is 1.

3|45
3|15
5|5
1

45 = _____

3|45
3|15
5|5
1

45 = _____

The prime factorization of 45 is _____ or _____.

Practice

Write the prime factorization of the given number.

1) 10

2) 56

3) 22

4) 92

5) 24

6) 82

7) 85

8) 100

9) 34