Warm Up

1.) Write in agenda book

2.) Place homework on your desk.

3.) Using the chart below, write the ratio that compares the number of students who chose fruit to the total number of students who responded. Write the ratio in simplest form and explain its meaning in words.

3 to 21 3:21 $\frac{3}{21}$ 1:7

Favorite Flavor of Gum	
Flavor	Number of Responses
Peppermint	9
Cinnamon	8
Fruit	3
Spearmint	1

Jan 5-8:59 AM

Lesson 9.2: Prime Factorization

Learning Target: I can write the prime factorization of a number.

Jan 5-9:00 AM

Factors are numbers we can multiply together to get another number.

Example: List the factors of 16.

1, 2, 4, 8, 16

The Prime Factorization of a number is the number written as the product of its prime factor.

A prime number is a number with only 2 factors, 1 and itself.

Examples:

3, 7, 5, 11, 13, 23, 199, 47, 2

We can use a factor tree to find the prime factorization.

Jan 5-9:01 AM

Example 1: Find the prime factorization of 30.

30

3 · 10

3 · 5 · 2

3, 5, 2

3, 5, 2

Jan 5-9:02 AM

Example 2: Find the prime factorization of 64.

64
8 · 8
4 · 2 · 4 · 2
2 · 2 · 2 · 2 · 2 · 2

2^6

Jan 5-9:03 AM

Example 3: Find the prime factorization of 240.

240
24 · 10
120 · 2
12 · 10
4 · 3
2 · 2 · 3 · 5 · 2 · 2
2 · 2 · 2 · 2 · 5 · 3

$2^4 \cdot 5 \cdot 3$

Jan 7-11:10 AM

Extra Practice: Partner Phone

1.) Find the prime factorization of 52.

$13 \cdot 2^2$

2.) Find the prime factorization of 402.

$2 \cdot 3 \cdot 67$

3.) Find the prime factorization of 132.

$2^2 \cdot 3 \cdot 11$

Jan 5-9:03 AM

H.O.T. FOCUS ON HIGHER ORDER THINKING

Communicate Mathematical Ideas How is finding the factors of a number different from finding the prime factorization of a number?

Brandon has 32 stamps. He wants to display the stamps in rows, with the same number of stamps in each row. How many different ways can he display the stamps? Explain.

Jan 5-9:05 AM

To Do:

1. Homework

2. ALEKS

Jan 5-9:08 AM