



Factoring Large Numbers

Grade Level: 7

OVERVIEW: Know the basic rules for divisibility i.e.: 2's are even, 3's are odd digits etc.

ACTIVITIES: Have students choose a large even number, say 642, how could you tell what numbers that are all prime would go into this number? Let the students discover how many times they can divide out a group of small numbers. Then introduce the tree of organization to the process.

Factoring large numbers: The process of factoring could be done by using the "Tree diagram" as follows:

642

321 - - - 2 Two is prime, circle it.

107 - - - 3 Both are prime, circle them.

This process can be used for many different things in basic math skills including, fractions, common denominators, and decimals but division skills can only be improved by doing basic practice.

ADDITIONAL ACTIVITIES: Factor method for large fraction reduction. The factor method for large fraction reduction could also be done using a similar process:

884/1224

884 - - - 2 - - - 2 - - - 13

- - - 442 - - - 221 - - - 17

1224 - - - 2 - - - 2 - - - 2 - - - 3 - - - 3

- - - 612 - - - 306 - - - 153 - - - 51 - - - 17

$$884/1224 = (2 \times 2 \times 13 \times 17) / (2 \times 2 \times 2 \times 3 \times 3 \times 17)$$

$$= 13 / 18$$

SUGGESTIONS/MODIFICATIONS

- Students should understand the importance of factoring and the ways in which it will help them with their math skills overall.
- Students may need to work in groups in order to create the factor trees.
- Students can be asked to add artistic creations to the math trees to stimulate interest and incorporate artistic expressions.

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