Today's Plan:

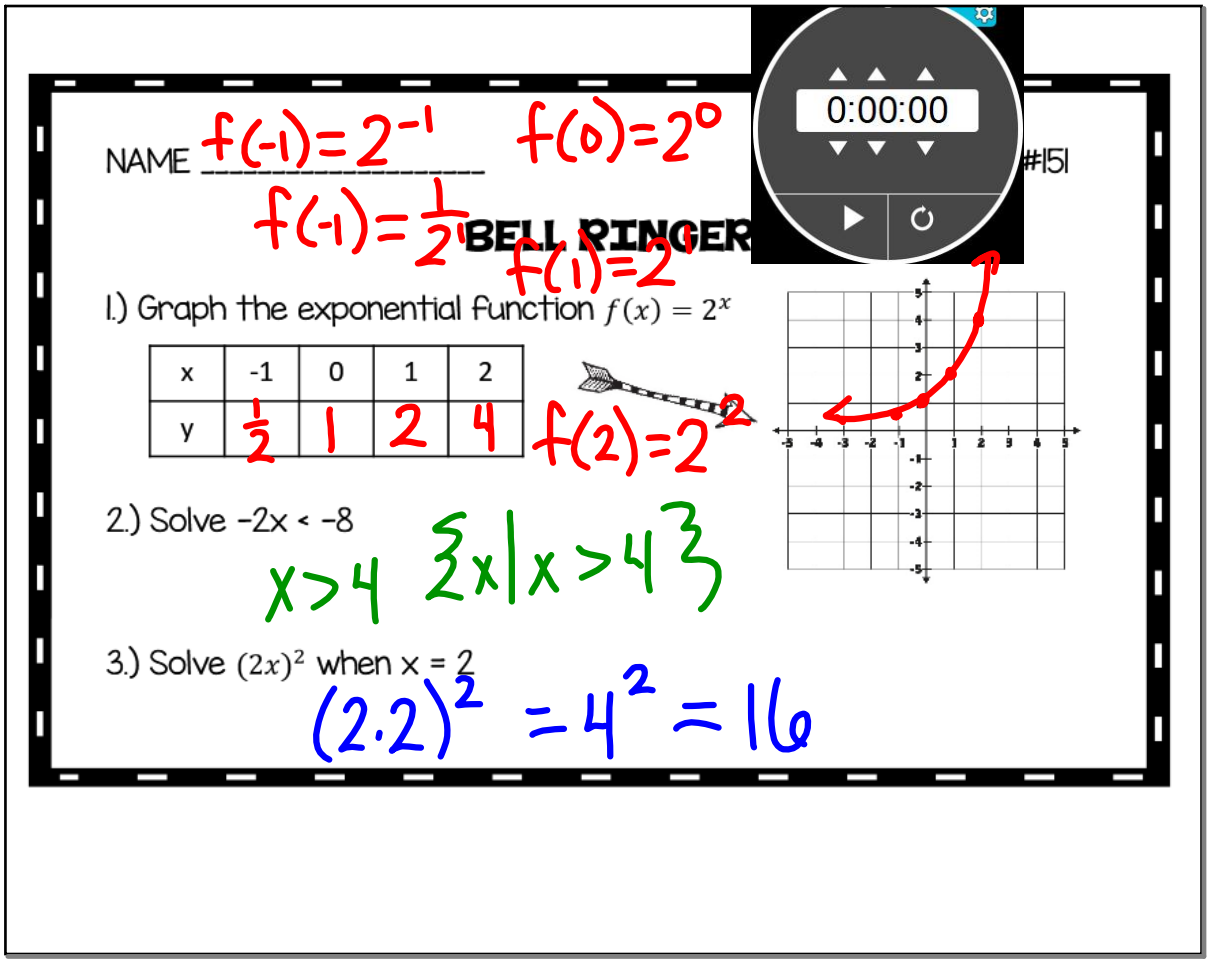
Learning Target (standard): I will create prime factorization trees and use them to write the prime factorization of integers.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, take notes over new material and complete practice problems over new concepts.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over new concepts.

Assessment: Board work, homework check and homework assignment

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.



11) Hits in a Round of Hacky Sack

Hits	Frequency
2	2
3	2
4	1
5	4
6	3
10	1
13	1
19	1

Find the mean, median, mode & range.

2 2 3 3 4 5 5 5 5 6 6 6 10 13 19

mean = $\frac{94}{15} = 6.267 hits$

median = 5 hits

mode = 5 hits

range = 17 hits

19-2 = 17

-4-

Simplify.

$\sqrt{100} = \sqrt{10 \cdot 10}$

$= 10$

$1^2 = 1$
$2^2 = 4$
$3^2 = 9$
$4^2 = 16$
$5^2 = 25$
$6^2 = 36$
$7^2 = 49$
$8^2 = 64$
$9^2 = 81$
$10^2 = 100$

$11^2 = 121$
$12^2 = 144$
$13^2 = 169$
$14^2 = 196$
$15^2 = 225$
$16^2 = 256$
$17^2 = 289$
$18^2 = 324$
$19^2 = 361$
$20^2 = 400$

Simplify.

$$\sqrt{400} = \sqrt{20 \cdot 20}$$

$$= 20$$

Simplify.

$$\pm\sqrt{\frac{121}{25}} = \sqrt{\frac{11 \cdot 11}{5 \cdot 5}}, -\sqrt{\frac{11 \cdot 11}{5 \cdot 5}}$$

$$= \frac{11}{5}, -\frac{11}{5}$$

Simplify.

$$-\sqrt{\frac{1}{256}} = -\sqrt{\frac{1 \cdot 1}{16 \cdot 16}}$$

$$= -\frac{1}{16}$$

Simplify.

$$\sqrt{\frac{225}{49}} = \sqrt{\frac{15 \cdot 15}{7 \cdot 7}}$$

$$= \frac{15}{7}$$

Simplify.

$$\pm\sqrt{\frac{144}{441}} = \sqrt{\frac{12\cdot12}{21\cdot21}}, -\sqrt{\frac{12\cdot12}{21\cdot21}}$$

$$= \frac{12}{21}, -\frac{12}{21}$$

$$= \frac{4}{7}, -\frac{4}{7}$$

Simplify.

$$\sqrt{\frac{18}{32}} \overset{\div 2}{\underset{\div 2}{}} = \sqrt{\frac{9}{16}} = \sqrt{\frac{3\cdot3}{4\cdot4}}$$

$$= \frac{3}{4}$$

Simplify.

$$\sqrt{\frac{99}{44}} \quad \begin{matrix}\div 11\\ \div 11\end{matrix} \quad = \sqrt{\frac{9}{4}} = \sqrt{\frac{3\cdot 3}{2\cdot 2}}$$

$$= \frac{3}{2}$$

Simplify.

$$-\sqrt{\frac{175}{28}} \quad \begin{matrix}\div 7\\ \div 7\end{matrix} \quad = -\sqrt{\frac{25}{4}} = -\sqrt{\frac{5\cdot 5}{2\cdot 2}}$$

$$= -\frac{5}{2}$$

Simplify.

$$\pm\sqrt{\frac{7}{175}} \div 7 = \pm\sqrt{\frac{1}{25}} = \frac{1}{5}, -\frac{1}{5}$$

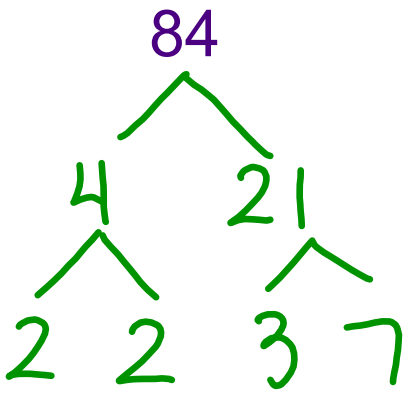
Prime Factorization:

- write a given number as a product of prime numbers

1,2,3,5,7,11,13,17,19,23,...

Composite Number - a number that can be written as a product of prime numbers

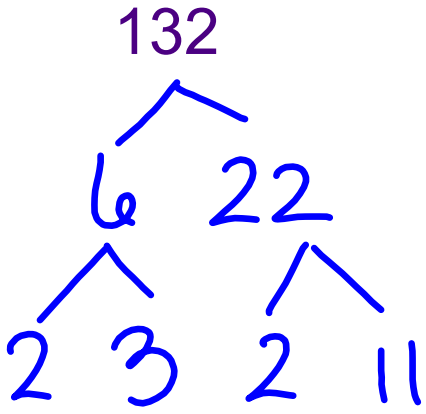
Create a prime factorization tree.



numerical order

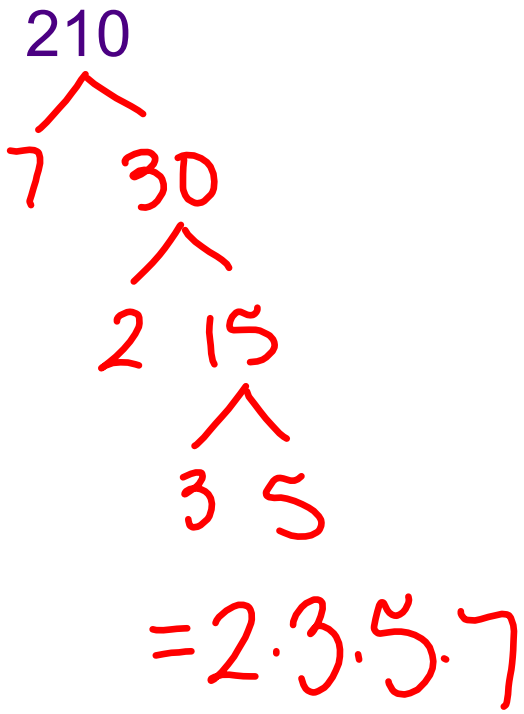
$= 2^2 \cdot 3 \cdot 7$

Create a prime factorization tree.

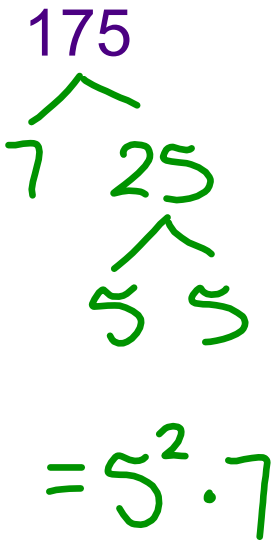


$= 2^2 \cdot 3 \cdot 11$

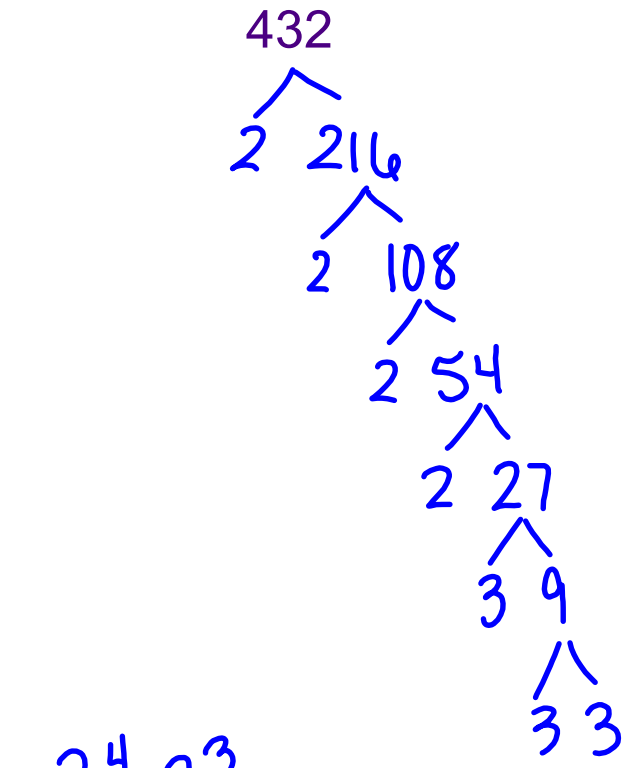
Create a prime factorization tree.



Create a prime factorization tree.

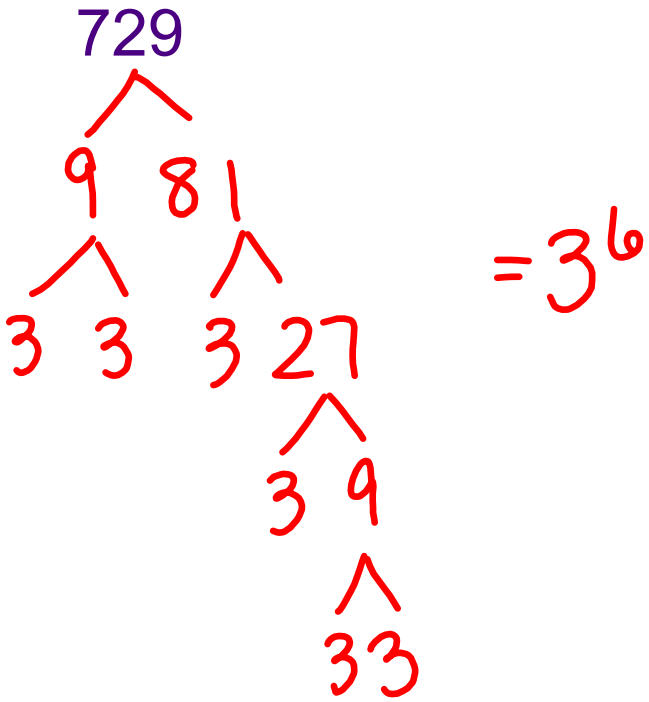


Create a prime factorization tree.



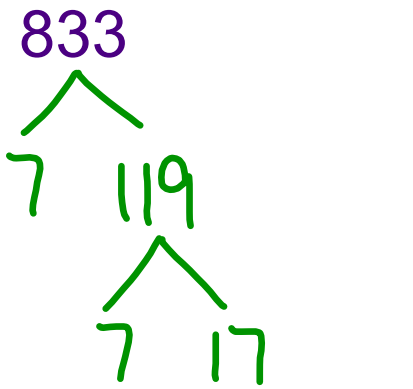
$= 2^4 \cdot 3^3$

Create a prime factorization tree.



$= 3^6$

Create a prime factorization tree.



$= 7^2 \cdot 17$

Assignment:

Prime Factorization

#1-10