

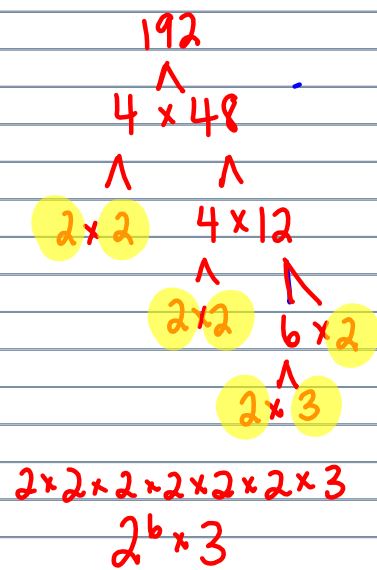
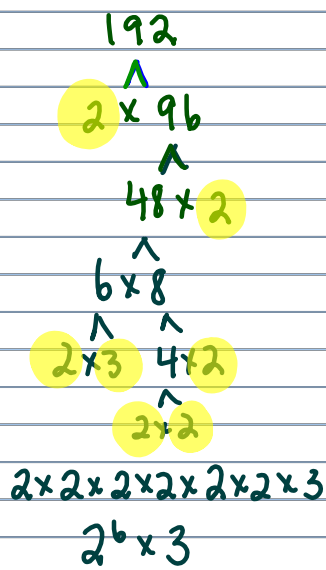
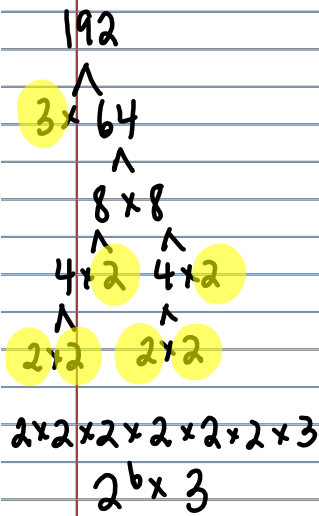
Prime Factorization

Prime Numbers	Composite Numbers	Neither
a whole # with <u>ONLY</u> one and itself as factors. (a # that can <u>only</u> be divided <u>evenly</u> by one and itself.)	a whole # with 3 or more factors. (a # that can be divided <u>evenly</u> by more factors than one and itself.)	0 and 1 are not prime or composite. Fractions and decimals are <u>not</u> prime or composite. Negative numbers are <u>not</u> prime or composite.
Examples: ② 23, 5, 7, 3, 29, 17, 11, 101, 79, 13	Examples: 144, 40, 27, 87, 21, 99, 18, 12, 24, 1000, 49, 15, 22, 72, 102	

Prime Factorization: a composite # written with its prime factors.

(Hint: Writing a composite number in a multiplication problem using prime factors.)

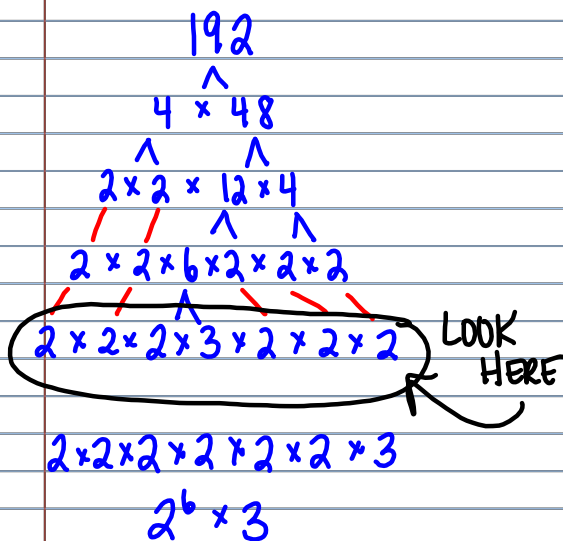
Factor Trees



Hints:

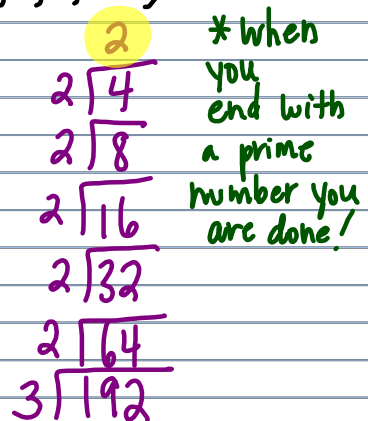
1. Circle or highlight prime factors.
2. Write the prime factors in order from least to greatest.

Drag and Drop Method



Division Method

* ALWAYS divide by a prime number
(2, 3, 5, 7, 11, 13, 17, ...)



$2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 3$
 $2^6 \times 3$

72

^

8x9

^

4x2

^

3x3

^

2x2

$2 \times 2 \times 2 \times 3 \times 3$

$2^2 \times 3^2$

244

^

2x122

^

2x61

$2 \times 2 \times 61$

$2^2 \times 61$

57

^

3x19

3x19

29

prime

504

$$4 \wedge \times 126$$

$$2 \wedge \times 2 \quad 9 \wedge \times 14$$
$$3 \wedge \times 3 \quad 7 \wedge \times 2$$

$$2 \cdot 2 \cdot 2 \cdot 3 \cdot 3 \cdot 7$$

$$2^3 \times 3^2 \times 7$$

1,575

$$5 \wedge \times 315$$

$$3 \wedge \times 105$$

$$5 \wedge \times 21$$

$$3 \wedge \times 7$$

$$3 \times 3 \times 5 \times 5 \times 7$$

$$3^2 \times 5^2 \times 7$$