

How to use exponents, factors and fractions:

- **Prime factorization** is the process of breaking a number into its prime numbers and then writing them as a product. The use of exponents is common with prime factorization. To find the prime factorization of a number, break it into two numbers that are its factors. By repeating the process, until all the numbers are prime, the result will be the product of the prime numbers.

Example: What is the prime factorization of 120? 120

$$\begin{array}{r}
 120 \\
 \wedge \\
 10 \quad 12 \\
 \wedge \quad \wedge \\
 5 \quad 2 \quad 3 \quad 4 \\
 \wedge
 \end{array}$$

The

- T
- t
- t
- I
- is
- t
- E
- S



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

nd
er
s

using powers of 10.

Example: 3,254,000 in scientific notation is 3.254×10^6

.000000978 in scientific notation is 9.78×10^{-7}

- If the number is smaller than 1, the exponent will be negative. If the number is larger than 1, the exponent will be positive.

- **Simplifying fractions** uses the greatest common factor, or GCF. If a fraction is very large, look for the GCF of both the numerator and denominator. Then divide both the numerator and denominator by that factor.
- When **comparing and ordering fractions**, the GCF is used to change the denominators of unlike fractions to denominators of like fractions.

Example: Compare $6/16$, $4/32$ and $7/8 \rightarrow 12/32$, $4/32$ and $28/32$

- The fractions all can be changed to a denominator of 32. The fraction $6/16$ becomes $12/32$ and the fraction $7/8$ becomes $28/32$. When they have the same denominator, they can be compared, the smallest is $4/32$, then $6/16$ and the largest is $7/8$.

- A
- c
- t
- s
- T
- r
- a
- b



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

the
or,
er



Try This!

What is the **prime factorization** of 72, 96, and 384?

Simplify the following fractions:

$$18/24$$

$$49/84$$

$$52/208$$

Order the following fractions from least to greatest:

$$1/2, 3/10, 14/15, 4/5$$

What

What

Eva



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

$$3^{-3}$$

Evaluate the following:

$$2.36 \times 10^8$$

$$5.06 \times 10^{-7}$$