

Rational Numbers - Examples of Standard Form

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In the previous segment, we saw what is the **Standard Form (Simplest Form) of a Rational Number**. In this segment, we shall see a few examples of the same.

Standard Form of Rational Numbers - Example

Q. Reduce $\frac{12}{18}$ to its standard form.

Solution:

Step 1: Find the Highest Common Factor (HCF) of numerator and denominator.

Let us find the HCF by continuous Division method.

- Divide 18 by 12 and the remainder obtained is 6.
- Since the remainder is not zero, the remainder becomes the new divisor and the previous divisor becomes the new dividend.
- Divide 12 by 6, the remainder is zero.
- So we stop here and the last divisor, which is 6, is the HCF.

∴ HCF of 12 and 18 is 6.

$$\begin{array}{r}
 12 \overline{) 18} \quad 1 \\
 \underline{12} \\
 6 \overline{) 12} \quad 2 \\
 \underline{12} \\
 0
 \end{array}$$

Fig 1

Step 2: Divide the numerator and the denominator by HCF.

$$\frac{\frac{12}{6}}{\frac{18}{6}} = \frac{2}{3}$$

$\therefore \frac{2}{3}$ is the standard form of $\frac{12}{18}$

Q. Reduce $\frac{16}{-48}$ to its standard form.

Solution:

The standard form cannot have a negative denominator.

So, $\frac{16}{-48} = \frac{-16}{48}$ (As they are equivalent rational number)

Step 1: Find the Highest Common Factor (HCF) of numerator and denominator.

HCF of 16 and 48 is 16.

Step 2: Divide the numerator and the denominator by HCF.

$$\frac{\frac{-16}{16}}{\frac{48}{16}} = \frac{-1}{3}$$

$\therefore \frac{-1}{3}$ is the standard form of $\frac{-16}{48}$ or $\frac{16}{-48}$

Summary

<p>Standard Form of Rational Number of Negative fraction</p>	<ul style="list-style-type: none"> • The standard form cannot have a negative denominator. So change it into an equivalent rational number. • Find the Highest Common Factor (HCF) of numerator and denominator. • Divide the numerator and the denominator by HCF.
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What's next?

In our next segment of Class 10 Maths, we will see how to convert **decimal to fractions**.