Introducing:

- fraction form
- mixed form
- improper
- \([\frac{a}{b}]\) form, \(b \neq 0\)

\[
\begin{align*}
\text{FRACTION FORM} & \quad \text{TO} \quad \text{WHOLE OR MIXED FORM} \\
\frac{5}{3} & \quad = \quad 1 \quad \frac{2}{3}
\end{align*}
\]
This picture shows the fraction $\frac{3}{4}$. The circle is divided into 4 equal parts and 3 of the parts are selected.
Increasing the numerator by one gives the fraction $\frac{4}{4}$. The picture shows that the numerator and denominator are the same. All parts of the circle are selected. This gives us a whole number of 1 since the complete unit is selected. You can think of the bar between the numerator and the denominator as a division bar. So $4$ divided by $4$ equals $1$. 
Increasing the numerator again by one gives the fraction $\frac{5}{4}$. The picture shows that the numerator is larger than the denominator. Some texts call a fraction such as this *improper*, where the numerator is equal to or larger than the denominator.
You can see by the picture that one complete unit and $\frac{1}{4}$ unit are selected. So the fraction $\frac{5}{4}$ can be written as $1\frac{1}{4}$. $\frac{5}{4}$ is the fraction form or improper form of the number. A fraction such as $1\frac{1}{4}$ that has a whole number part and a fraction part is known as a mixed number.

The fraction form can also be called the $\frac{a}{b}$ form, providing that you specify that $b$ is not equal to zero.
This picture shows how $\frac{11}{4}$ makes two complete units and $\frac{3}{4}$ of another unit. You can see from the picture that we have $\frac{4}{4} + \frac{4}{4} + \frac{3}{4}$ or $1+1+\frac{3}{4}$ or $2 \frac{3}{4}$. 
You can calculate the *mixed form of a number* from the fraction \( \frac{a}{b} \) form. Rename \( \frac{23}{6} \) by dividing the numerator 23 by the denominator 6 as is shown in the example on the right. The quotient 3 is the whole number. The remainder 5 is the numerator and the denominator is the same denominator 6.
The same amount, \( \frac{23}{6} \), is shown with a number line.
The amount shown at the arrow can be written as \( \frac{11}{5} \) or \( 2 \frac{1}{5} \). Notice that \( \frac{5}{5} \) names one unit and that there are two \( \frac{5}{5} \) units.
Notice how the fraction $\frac{10}{5}$ gives the whole number 2.
Write in mixed or whole form.
Fraction Form to Mixed Form 11

FRACTION FORM TO WHOLE OR MIXED FORM

\[
\frac{17}{5} = 3 \frac{2}{5}
\]

Divide the numerator 17 by the denominator 5.
The quotient 3 is the whole number. The remainder 2 is the numerator.
The divisor 5 is the denominator.
Fraction Form to Mixed Form

FRACTION FORM

\[
\frac{18}{7}
\]

Write in mixed or whole form.
Fraction Form to Mixed Form 13

FRACTION FORM

\[ \frac{18}{7} \]

TO

WHOLE OR MIXED FORM

\[ 2 \frac{4}{7} \]

Divide the numerator 18 by the denominator 7.
The quotient 2 is the whole number.
The remainder 4 is the numerator.
The divisor 7 is the denominator.