

Fractions and Mixed Numbers

A mixed number is made up of two parts: a whole number and a fraction.

$3\frac{5}{11}$ is a mixed number, 3 is the whole number and $\frac{5}{11}$ is the fraction

$$\begin{array}{c} \text{whole} \\ \text{number} \\ 3 \end{array} \frac{5}{11}$$

fraction

You can rewrite a mixed number as an equivalent fraction. This type of fraction will have a numerator that is greater than the denominator.

Write $3\frac{3}{4}$ as an equivalent fraction

STEP 1: Multiply the whole number by the denominator of the fraction.

$$3 \times 4 = 12$$

STEP 2: Add the numerator to the numerator of the **equivalent** fraction.

$$12 + 3 = 15$$

STEP 3: Use the same denominator to write the equivalent fraction.

$$3\frac{3}{4} = \frac{15}{4}$$

You can also rewrite a fraction with a numerator greater than the denominator as a mixed number.

Write $\frac{19}{5}$ as a mixed number

STEP 1: Divide the numerator by the denominator.

$$19 \div 5 = 3 \text{ r } 4$$

STEP 2: Use the remainder as the numerator in the fraction part of the mixed number. The denominator is the divisor. The quotient is the whole number in the mixed number.

$$\begin{array}{l} \text{quotient} \rightarrow 3 \quad 4 \leftarrow \text{remainder} \\ \quad \quad \quad \bar{5} \rightarrow \text{divisor} \end{array}$$

$$\frac{19}{5} = 3\frac{4}{5}$$

A- Write the mixed number as a fraction.

$$\begin{aligned}
 1) 2\frac{1}{3} \\
 2\frac{1}{3} \\
 = \frac{2 \times 3 + 1}{3} \\
 = \frac{6 + 1}{3} \\
 = \frac{7}{3}
 \end{aligned}$$

$$\begin{aligned}
 2) 5\frac{3}{4} \\
 5\frac{3}{4} \\
 = \frac{5 \times 4 + 3}{4} \\
 = \frac{20 + 3}{4} \\
 = \frac{23}{4}
 \end{aligned}$$

$$\begin{aligned}
 3) 9\frac{2}{5} \\
 9\frac{2}{5} \\
 = \frac{9 \times 5 + 2}{5} \\
 = \frac{45 + 2}{5} \\
 = \frac{47}{5}
 \end{aligned}$$

$$\begin{aligned}
 4) 6\frac{1}{6} \\
 6\frac{1}{6} \\
 = \frac{6 \times 6 + 1}{6} \\
 = \frac{36 + 1}{6} \\
 = \frac{37}{6}
 \end{aligned}$$

B- Write the fraction as a mixed number in simplest form or as a whole number.

$$\begin{aligned}
 1) \frac{34}{3} \\
 \frac{34}{3} \\
 34 \div 3 = 11 \text{ r } 1 \\
 \frac{34}{3} = 11\frac{1}{3}
 \end{aligned}$$

$$\begin{aligned}
 2) \frac{49}{5} \\
 \frac{49}{5} \\
 49 \div 5 = 9 \text{ r } 4 \\
 \frac{49}{5} = 9\frac{4}{5}
 \end{aligned}$$

$$\begin{aligned}
 3) \frac{28}{9} \\
 \frac{28}{9} \\
 28 \div 9 = 3 \text{ r } 1 \\
 \frac{28}{9} = 3\frac{1}{9}
 \end{aligned}$$