

Fractions

It's Fun When You Understand Them

A note before you start: To be good at working with fractions, you need to have the multiplication table memorized.

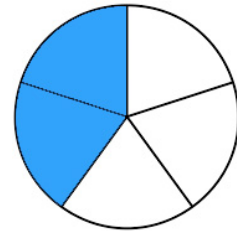
A **fraction** is a part of a whole.

Example:

2
—
5

The number **2** is called the **numerator**, and it tells us how many parts are being considered.

The number **5** is called the **denominator**, and it tells us into how many parts the whole was divided.



Proper Fractions	Improper Fractions	Mixed Numbers
<p>Fractions in which the numerator <u>is less</u> than the denominator.</p> <p><u>Examples:</u></p> $\frac{3}{4}$, $\frac{5}{8}$, $\frac{2}{11}$, $\frac{1}{15}$	<p>Fractions in which the numerator <u>is greater than or equal</u> to the denominator.</p> <p><u>Examples:</u></p> $\frac{5}{4}$, $\frac{7}{7}$, $\frac{16}{5}$, $\frac{4}{4}$	<p>Numbers that have a whole number <u>and</u> a fraction.</p> <p><u>Examples:</u></p> $4\frac{1}{5}$, $6\frac{3}{7}$, $1\frac{2}{11}$
<p>$\frac{1}{4}$</p>	<p>$\frac{5}{4}$</p>	<p>$1\frac{1}{4}$</p>

How to Change a Mixed Number to an Improper Fraction

1. Multiply the whole number by the denominator and add the numerator.
2. Keep the denominator the same.

Examples:

$3\frac{2}{5} = \frac{3 \cdot 5 + 2}{5} = \frac{17}{5}$	$4\frac{1}{7} = \frac{4 \cdot 7 + 1}{7} = \frac{29}{7}$	$8\frac{2}{5} = \frac{8 \cdot 5 + 2}{5} = \frac{42}{5}$
$1\frac{1}{6} = \frac{1 \cdot 6 + 1}{6} = \frac{7}{6}$	$2\frac{3}{8} = \frac{2 \cdot 8 + 3}{8} = \frac{19}{8}$	$5\frac{4}{5} = \frac{5 \cdot 5 + 4}{5} = \frac{29}{5}$

How to Change an Improper Fraction to a Mixed Number

1. Divide the numerator by the denominator.
2. Write the remainder over the denominator.

Examples:

$\frac{17}{5} = 3\frac{2}{5}$ <p>5 goes into 17 three times, and the remainder is 2.</p>	$\frac{29}{7} = 4\frac{1}{7}$ <p>7 goes into 29 four times, and the remainder is 1.</p>	$\frac{42}{5} = 8\frac{2}{5}$ <p>5 goes into 42 eight times, and the remainder is 2.</p>
$\frac{327}{25} = 13\frac{2}{25}$ <p>Use long division to find how many times 25 goes into 327, and what the remainder is.</p> $\begin{array}{r} 13 \\ 25 \overline{)327} \\ \underline{-25} \\ 77 \\ \underline{-75} \\ 2 \end{array}$	$\frac{97}{13} = 7\frac{6}{13}$ <p>Use long division to find how many times 13 goes into 97, and what the remainder is.</p> $\begin{array}{r} 7 \\ 13 \overline{)97} \\ \underline{-91} \\ 6 \end{array}$	$\frac{449}{36} = 12\frac{17}{36}$ <p>Use long division to find how many times 36 goes into 449, and what the remainder is.</p> $\begin{array}{r} 12 \\ 36 \overline{)449} \\ \underline{-36} \\ 89 \\ \underline{-72} \\ 17 \end{array}$