Fractions (common)

A fraction is a <u>part</u> of a <u>whole</u>

<u>Named fractions</u> are <u>equal parts of a whole</u>

$$\frac{4}{7}$$

four-sevenths
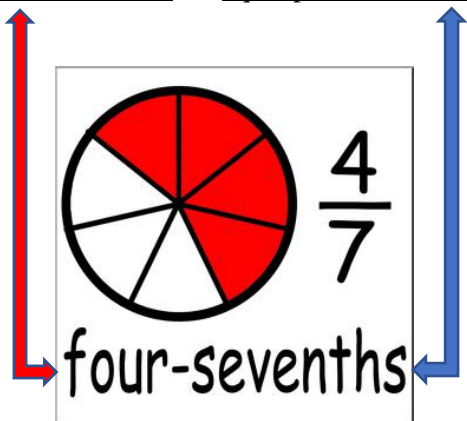
$$\frac{4}{7}$$

4 → Numerator

— → Vinculum

7 → Denominator

4 parts out of 7 parts

Comparing fractions

Fraction Chart

$\frac{1}{2}$		$\frac{1}{2}$	
$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$
$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$
$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$

Fraction	Word Name
$\dfrac{1}{2}$	**one half**
$\dfrac{1}{3}$	**one third**
$\dfrac{1}{4}$	**one quarter**
$\dfrac{1}{5}$	**one fifth**
$\dfrac{1}{6}$	**one sixth**
$\dfrac{1}{7}$	**one seventh**
$\dfrac{1}{8}$	**one eighth**
$\dfrac{1}{9}$	**one ninth**
$\dfrac{1}{10}$	**one tenth**

Equivalent Fractions

Equivalent fractions can be made using two operations: Multiplication or Division
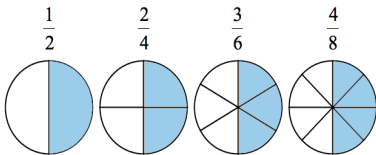
1) Multiplication:
Multiply both the numerator and denominator by the <u>SAME</u> number.

$$\frac{2^{\times 2}}{3_{\times 2}} = \frac{4}{6}$$

2) Division:
Divide both the numerator and denominator by the <u>SAME</u> number.

$$\frac{15^{\div 3}}{18_{\div 3}} = \frac{5}{6}$$

$\frac{1}{2}$ $\frac{2}{4}$ $\frac{3}{6}$ $\frac{4}{8}$

Types of common fractions

Proper Fraction

$$\frac{2}{4}$$

← Numerator (smaller than)

← Denominator

Improper Fraction

$$\frac{4}{3}$$

← Numerator (larger than)

← Denominator

Mixed Number

$$1\frac{2}{7}$$

} ← Proper fraction

↑ Whole Number

Improper Fraction to Mixed Number

Divide the Numerator by the Denominator
The remainder forms the proper fraction part of
the mixed number.

Eg. $\dfrac{8}{5} = 8 \div 5 = 5\overline{\smash{\big)}8} = 1\dfrac{3}{5}$
$\phantom{Eg. \dfrac{8}{5} = 8 \div 5 = 5\,}1r3$

Mixed Number to Improper Fraction

Multiply the Whole Number by the
Denominator, then add the answer you get to
the Numerator. Write that number over the
denominator.

Eg. $2\dfrac{1}{4} = \dfrac{(2 \times 4) + 1}{4} = \dfrac{9}{4}$