MIXED NUMERALS and IMPROPER FRACTIONS
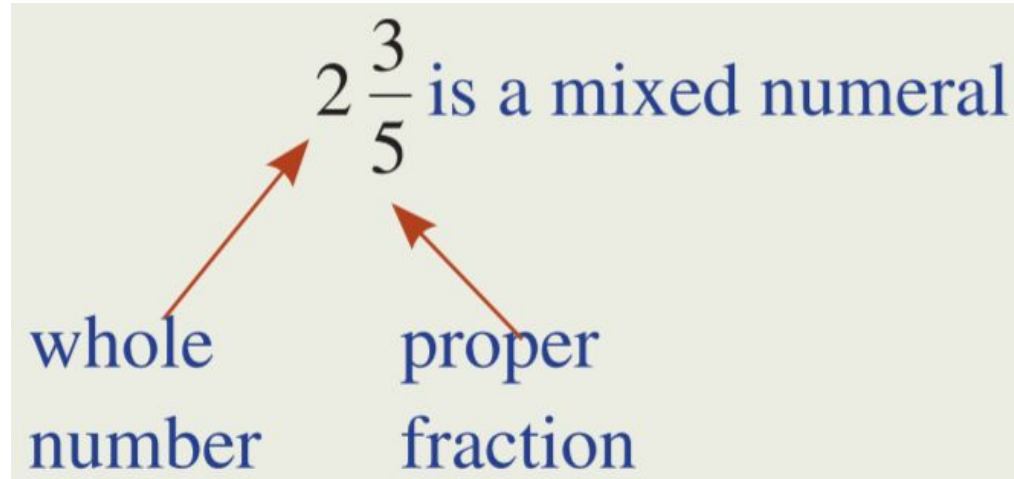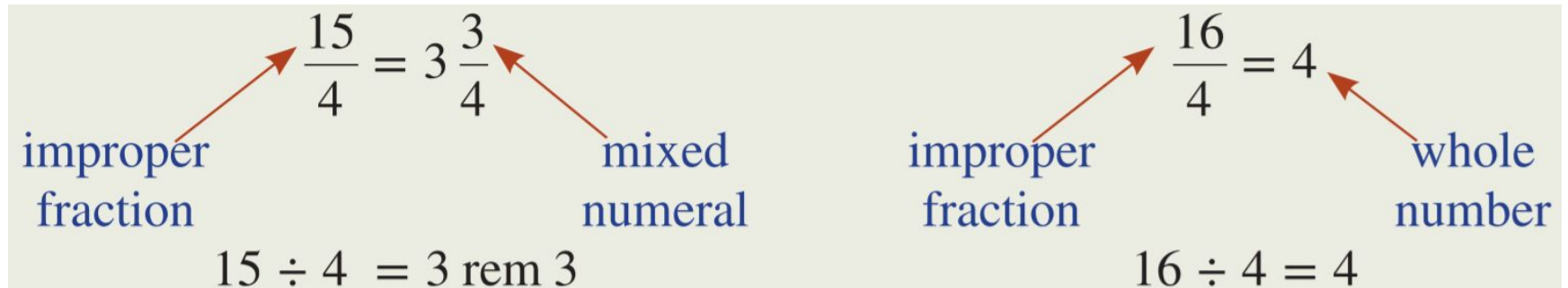
A number is said to be a mixed numeral when it is a mix of a whole number plus a proper fraction.

$$2\frac{3}{5} \text{ is a mixed numeral}$$

whole number → (2)

proper fraction → ($\frac{3}{5}$)

MIXED NUMERALS and IMPROPER FRACTIONS

Improper fractions (fractions greater than a whole, where the numerator is greater than the denominator) can be converted to mixed numerals or whole numbers.

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

improper fraction   mixed numeral

$$15 \div 4 = 3 \text{ rem } 3$$

$$\frac{16}{4} = 4$$

improper fraction   whole number

$$16 \div 4 = 4$$

Mixed numerals can be converted to improper fractions.

MIXED NUMERALS and IMPROPER FRACTIONS

Example 12 **Converting mixed numerals to improper fractions**

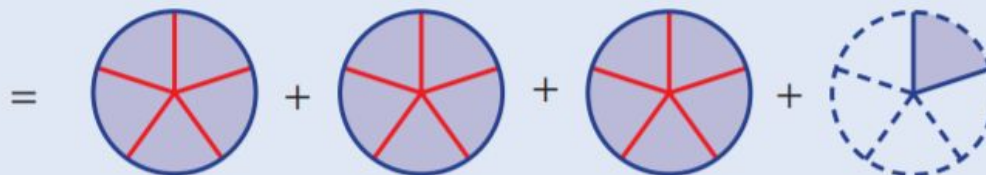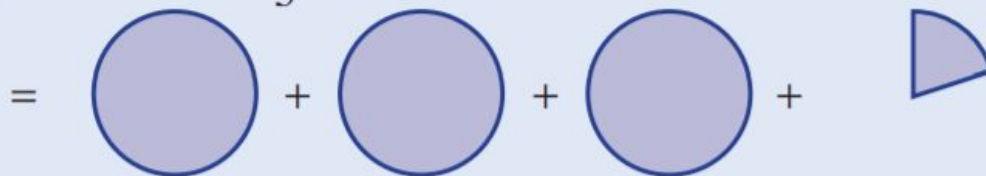Convert $3\frac{1}{5}$ to an improper fraction.

SOLUTION

$$3\frac{1}{5} = 1 + 1 + 1 + \frac{1}{5}$$

$$= \frac{5}{5} + \frac{5}{5} + \frac{5}{5} + \frac{1}{5}$$

$$= \frac{16}{5}$$

or

EXPLANATION

$3\frac{1}{5} = 3$ wholes $+ \frac{1}{5}$ of a whole

MIXED NUMERALS and IMPROPER FRACTIONS

Example 14   Writing mixed numerals in simplest form

Convert $\dfrac{20}{6}$ to a mixed numeral in simplest form.

SOLUTION

$$\frac{20}{6} = 3\frac{2}{6} = 3\frac{1 \times 2}{3 \times 2} = 3\frac{1}{3}$$

or

$$\frac{20}{6} = \frac{10 \times 2}{3 \times 2} = \frac{10}{3} = 3\frac{1}{3}$$

EXPLANATION

Method 1: Convert to a mixed numeral and then simplify the fraction part.

Method 2: Simplify the improper fraction first and then convert to a mixed numeral.