Proper Fractions and Improper Fractions

Understanding Proper and Improper Fractions

- A fraction shows a part of a whole and is written as numerator/denominator.
- A proper fraction is a fraction where the numerator is less than the denominator.
- A proper fraction is always less than 1.
- An improper fraction is a fraction where the numerator is equal to or greater than the denominator.
- An improper fraction is always equal to or more than 1.
- Improper fractions can also be written as mixed fractions.

Facts about Proper and Improper Fractions

- Examples of proper fractions: $\frac{2}{3}, \frac{5}{7}, \frac{1}{4}$
- Examples of improper fractions: $\frac{7}{5}, \frac{9}{4}, \frac{6}{6}$
- Proper fractions are used when we take only a small part
- Improper fractions are used when the part is more than one whole

Mixed Examples with Solutions

Example: Identify if $\frac{3}{4}$ is proper or improper

Solution: $3 < 4 \rightarrow$ Proper Fraction

Example: Identify if $\frac{7}{3}$ is proper or improper

Solution: $7 > 3 \rightarrow$ Improper Fraction

Example: Identify if $\frac{5}{5}$ is proper or improper

Solution: $5 = 5 \rightarrow$ Improper Fraction

Example: Convert $\frac{9}{4}$ into a mixed fraction

Solution: $9 \div 4 = 2$ remainder $1 \rightarrow 2\frac{1}{4}$

Example: Is $\frac{2}{9}$ a proper fraction?

Solution: $2 < 9 \rightarrow$ Yes, it is a proper fraction

Summary Points

- Proper fractions have smaller numerators than denominators and are less than 1.
- Improper fractions have equal or larger numerators than denominators and are equal to or more than 1.
- Improper fractions can be changed into mixed fractions.
- Understanding these helps in comparing and solving real-life problems involving parts and wholes.