

Ratio and Proportion

Chapter 11: Ratio and Proportion · Topic 1

Key Concept

A ratio compares two quantities, written as $a:b$, showing the relative size of one quantity compared to another.

A proportion states that two ratios are equal, like $a:b = c:d$, useful for solving problems involving scaling.

To solve a proportion, we can use cross multiplication: if $a:b = c:d$, then $a \times d = b \times c$.

Ratios and proportions are used in real life for recipes, map scales, and comparing quantities like speed or price.

Quick Revision Notes

- Ratio: compares two quantities, $a:b$.
- Shows relative size of quantities.
- Proportion: two ratios are equal, $a:b=c:d$.
- Useful for scaling problems.
- Solve via cross multiplication.
- $a:b=c:d$ means $a \times d = b \times c$.
- Used in recipes, map scales.
- Also comparing speed, price.

Practice Questions

- 1 Simplify the ratio 15:20.
- 2 Solve for x : $2:3 = x:12$.
- 3 Write a ratio comparing two objects in your room.
- 4 Solve a recipe scaling problem using ratio.
- 5 Use cross multiplication to solve a proportion.
- 6 Discuss a real-life use of ratios.