

Understanding Direct Proportion

Chapter 7: Proportional Reasoning–1 · Topic 1

Key Concept

A classic example: if 5 pens cost ₹50, then the cost per pen (₹10) remains constant, so 10 pens (double the quantity) cost ₹100 (double the price) — this constant ratio (cost/quantity = ₹10) is the defining feature of direct proportion. Recognising direct proportion situations in daily life — like cost versus quantity, distance versus time at constant speed, or ingredients versus servings in a recipe — helps solve many practical problems using simple ratio reasoning rather than complex formulas.

Quick Revision Notes

- Direct proportion: two quantities increase/decrease together at the same constant rate (ratio).
- If one quantity doubles, the other (in direct proportion) also doubles.
- Example: 5 pens cost ₹50 (₹10/pen); 10 pens cost ₹100, maintaining the same ratio.
- Common direct proportion situations: cost vs quantity, distance vs time (constant speed).

Practice Questions

- 1 If 3 books cost ₹150, find the cost of 7 books.
- 2 Verify that doubling the quantity in a direct proportion situation doubles the cost, using the pen example.
- 3 Give one real-life example of two quantities in direct proportion.