

CLASS 8

MATHS

REVISION NOTES

Revision Notes for Class 8 Maths Chapter 10: Proportional Reasoning 2

Condensed revision notes for Class 8 Maths Chapter 10: Proportional Reasoning 2 - Ganita Prakash.

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Dividing a whole in a given ratio: each part's share = (that part's ratio number $\div$ sum of all ratio numbers) $\times$ total quantity.

Similar vs congruent: shapes with sides in the same ratio are similar (same shape), but only congruent if also the same actual size.

Triangle inequality: a triangle can be constructed only if the sum of any two sides exceeds the third side.

Pie chart angle for a category = (category count $\div$ total count) $\times$ 360° . All angles in a pie chart always sum to 360° .

Direct proportion: $x/y = \text{constant}$ (both quantities increase or decrease together in the same ratio).

Inverse proportion: $x \times y = \text{constant}$ (as one quantity increases, the other decreases proportionally). Test: check that $x_1y_1 = x_2y_2 = x_3y_3 \dots$ for every pair.

Common inverse-proportion situations: number of workers vs. days to finish a job; number of taps vs. time to fill a tank; speed vs. time for a fixed distance; number of machines vs. days for a fixed output.

Common direct-proportion situations: quantity bought vs. price paid (at a fixed rate); number of pages vs. time to read (at a fixed reading speed).

Combined work rates: add individual rates ($1/\text{time}$ for each) to find the combined rate; total time = $1 \div \text{combined rate}$.

Rule of thumb: always check with the product test ($xy = \text{constant}$) before assuming a relationship is inverse — don't just guess from the wording.

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