

Proportion problems and repair

Pearson Edexcel GCSE Mathematics 1MA1 • L016

Foundation and Higher • Lesson resources

REACH FOR THE STAR | GCSE MATHEMATICS

Purpose

Select and justify a proportion method. Diagnose whether the given amount is a total, a share or a difference.

Vocabulary

Corresponding: quantities in matching roles. Total: sum of all shares. Difference: larger share minus smaller share. Direct proportion: constant ratio of corresponding quantities.

Why the method works

For $A:B=2:3$, the whole contains five equal parts but the difference contains one part. The number of parts depends on what the given amount describes. In direct proportion, multiplying one quantity by a factor multiplies the other by the same factor.

Method and checking

Label the ratio parts and the meaning of the known amount. Find one part or one unit; scale to the target. Check the original ratio and the stated total or difference.

Common errors and next attempt

If total and difference are confused, draw five equal boxes for $2:3$ and mark the extra box. If additive scaling is used, compare ratios. Recheck $A:B=3:5$ with total 40, then difference 10.