

Finding a Common Denominator

Chapter 11: Finding Common Ground · Topic 1

Key Concept

For fractions $\frac{1}{3}$ and $\frac{1}{4}$, since the LCM of 3 and 4 is 12, both fractions are converted to have a denominator of 12: $\frac{1}{3}$ becomes $\frac{4}{12}$ (multiplying numerator and denominator by 4), and $\frac{1}{4}$ becomes $\frac{3}{12}$ (multiplying numerator and denominator by 3). This conversion process, multiplying both the numerator and denominator by the same number, ensures the fraction's actual value remains unchanged even though its appearance (numerator and denominator) changes.

Quick Revision Notes

- A common denominator is a shared multiple of two or more denominators.
- The LCM of the denominators makes the most efficient (smallest) common denominator.
- Converting a fraction to a new denominator: multiply both numerator and denominator by the same number.
- This conversion keeps the fraction's actual value unchanged, just its appearance.

Practice Questions

- 1 Find a common denominator for $\frac{2}{5}$ and $\frac{1}{4}$.
- 2 Convert $\frac{3}{4}$ and $\frac{5}{6}$ to fractions with a common denominator.
- 3 Explain why multiplying both numerator and denominator by the same number keeps a fraction's value unchanged.