

Operations on Rational Numbers

Chapter 3: A Story of Numbers · Topic 2

Key Concept

Special care must be taken with negative rational numbers, applying the same sign rules used for integers: multiplying or dividing two rational numbers with the same sign gives a positive result, while different signs give a negative result. For example, multiplying $-2/3$ by $3/5$ gives $-6/15$, which simplifies to $-2/5$, following both the fraction multiplication rule and the negative-sign rule together.

Quick Revision Notes

- Rational number operations follow the same rules as fraction operations.
- Common denominators are needed for addition/subtraction with different denominators.
- Sign rules for integers also apply: same signs give positive results, different signs give negative results.
- Example: $-2/3 \times 3/5 = -6/15 = -2/5$ (simplified).

Practice Questions

- 1 Multiply $-2/3$ by $3/5$.
- 2 Add $-1/4$ and $3/8$.
- 3 Divide $-5/6$ by $2/3$.