

Multiplying and Dividing Fractions

Multiplying Fractions:

1. To multiply fractions, multiply the numerators (top numbers) together and the denominators (bottom numbers) together.
2. Example: $(\frac{2}{3} \times \frac{4}{5} = \frac{2 \times 4}{3 \times 5} = \frac{8}{15})$
3. If the fractions are mixed numbers, convert them to improper fractions before multiplying.

Dividing Fractions:

1. To divide fractions, multiply the first fraction by the reciprocal of the second fraction.
2. Example: $(\frac{2}{3} \div \frac{4}{5} = \frac{2}{3} \times \frac{5}{4} = \frac{2 \times 5}{3 \times 4} = \frac{10}{12})$
3. Simplify the result by reducing the fraction to its simplest form, if possible.

Key Points:

1. When multiplying fractions, the result will always be smaller than either of the original fractions.
2. When dividing fractions, remember to multiply by the reciprocal of the divisor.
3. Always simplify the final answer to its simplest form, if necessary.

Practice Problem:

Calculate $(\frac{1}{2} \times \frac{3}{4} \div \frac{1}{3})$

Solution: $(\frac{1}{2} \times \frac{3}{4} = \frac{1 \times 3}{2 \times 4} = \frac{3}{8}) (\frac{3}{8} \div \frac{1}{3} = \frac{3}{8} \times \frac{3}{1} = \frac{3 \times 3}{8 \times 1} = \frac{9}{8})$