

Fractions decimals and percentages

Pearson Edexcel GCSE Mathematics 1MA1 • L009

Foundation and Higher • Lesson resources

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Purpose

Convert between fractions, decimals and percentages, and compare proportions on a consistent basis.

Vocabulary

Percentage: parts per hundred. Proportion: part relative to the whole. Terminating decimal: ends after finitely many places. Recurring decimal: a digit or block repeats indefinitely.

Why the method works

25% means $25/100$, so it equals $1/4$ and 0.25 . Decimal to percentage multiplies the numerical value by 100 and adds %. Fraction to decimal uses division. The percentage sign changes the unit: 0.25 is 25%, not 0.25%.

Method and checking

Choose a useful route: common denominator 100 for simple fractions, $\text{numerator} \div \text{denominator}$ otherwise. Keep recurring values exact; $1/3$ is $0.333\dots$ recurring, not exactly 0.33 . Compare by changing all values into one form.

Common errors and next attempt

If 0.4 becomes 0.4% , return to four tenths = forty hundredths. If 150% is rejected, show one and a half wholes. If a rounded decimal is treated as exact, compare $1/3$ with $33/100$. Recheck $0.07=7\%$ and $3/5=60\%$.