

Recurring decimals as exact fractions answers

Pearson Edexcel GCSE Mathematics 1MA1 • L009

Teacher use only • N10 Higher • Lesson resources

REACH FOR THE STAR | GCSE MATHEMATICS

Prerequisites: Equivalent fractions; place value; understanding $10x - x = 9x$. Model the algebra explicitly before independent work.

Higher route: replace the 2-minute A3 feedback and the two 4-minute Challenge discussions with this 10-minute taught extension. Retain core P1–P2. Set HX1–HX2 as the final four minutes of that alternative, and use the shared challenges later if needed. The core route remains 60 minutes; the extension is not an additional compulsory ten minutes. Route choice reflects tier curriculum, not temporary support needs.

H1

6; 6; $6/9 = 2/3$.

H2

Multiply by 100; $99x = 45$; $x = 45/99 = 5/11$.

HX1

$10x - x = 7$ or $9x = 7$ M1; $x = 7/9$ A1.

HX2

$100x - x = 36$ or $99x = 36$ M1; $x = 36/99 = 4/11$ A1.

Diagnostic response

A terminating decimal such as 0.27 equals $27/100$, while $0.272727\ldots$ equals $3/11$. Dots in this resource explicitly mean the named block repeats forever. If subtracting decimals is insecure, align place values first. Mixed non-repeating prefixes will be revisited with algebra.

HX1–HX2 total 4 marks, AO1 2 and AO2 2 as local judgements for review. M=method, A=dependent accuracy, B=independent mark. Accept equivalent exact forms and valid alternatives. Original Reach for the Star questions, not official or endorsed Pearson material.

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