HIGHER

7.6 Algebraic Fractions: 10-minute Pack

EDEXCEL 1MA1 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

Algebraic Fractions: Fluency and Exam Drill

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This worksheet opens with short fluency questions on cancelling common factors, adding, subtracting, multiplying and dividing algebraic fractions, before moving into exam-style questions that combine these skills with solving fractional equations, showing given identities and a real-life journey-time problem. It finishes with two grade-9 items: a compound fraction and a solve-and-reject question that tests whether a solution is actually valid once excluded values are considered.

1 Simplify fully $(x^2 - 5x)/(3x)$

(Total for Question 1 is 2 marks)

2 Write $x/4 + x/6$ as a single fraction in its simplest form.

(Total for Question 2 is 2 marks)

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3 Solve $6/(x + 2) = 3$

(Total for Question 3 is 3 marks)

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4 Simplify fully $(x^2 - 16)/(x^2 + 4x)$

(Total for Question 4 is 2 marks)

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Mark scheme · 7.6 Algebraic Fractions: 10-minute Pack

Question 1

factorises numerator: x(x - 5)	**M1**
(x - 5)/3 oe cao	**A1**

Answer: (x - 5)/3

Question 2

common denominator 12 used, e.g. 3x/12 + 2x/12	**M1**
5x/12 oe cao	**A1**

Answer: 5x/12

Question 3

multiplies both sides by (x + 2): 6 = 3(x + 2)	**M1**
expands and rearranges: 3x = 0	**M1**
x = 0 cao	**A1**

Answer: x = 0

Question 4

factorises numerator (x - 4)(x + 4) and denominator x(x + 4)	**M1**
(x - 4)/x oe cao	**A1**

Answer: (x - 4)/x

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