InkMaths

QUESTION WORKBOOK

Partial fractions

Algebra and functions · Year 12–13

6 questions · 24 marks

PRINT EDITION

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SECTION A · Warm-up

A1 Express $(3x + 5)/((x + 1)(x + 2))$ in partial fractions. [3]

A2 Writing $(3x + 5)/((x + 1)(x + 2))$ as $A/(x + 1) + B/(x + 2)$ gives $3x + 5 = A(x + 2) + B(x + 1)$. Explain why substituting $x = -1$ finds A immediately. [2]

SECTION B · Standard

B1 Express $(6x^2 + 5x - 2)/(x(x - 1)(x + 2))$ in partial fractions. [4]

B2 Express $(2x + 7)/(x + 3)^2$ in partial fractions. [4]

B3 Express $(x^2 + 4x + 5)/((x + 1)(x + 2))$ in partial fractions. [5]

SECTION C · Stretch

C1 Express $(3x^2 + 7x + 8)/((x + 1)^2(x + 2))$ in partial fractions. [6]