



QUESTION WORKBOOK

Integrating rational functions

Integration · Year 12–13

6 questions · 23 marks

NAVY SCREEN EDITION

SECTION A · Warm-up

A1 Find $\int 2/(3x + 5) \, dx$. [2]

A2 Find $\int 5/(2x - 1) \, dx$, and $\int 3/(x + 2) \, dx$. [3]

SECTION B · Standard

B1 Find $\int (3x + 5)/((x + 1)(x + 2)) \, dx$. [4]

B2 Find $\int x/(x^2 + 4) \, dx$, and explain why partial fractions cannot be used here. [3]

- B3** Find the exact value of $\int_0^1 \frac{2}{(x+1)(x+2)} dx$, giving your answer as a single logarithm. [5]

SECTION C · Stretch

- C1** Find $\int \frac{x^2 + 3x + 3}{(x+1)(x+2)} dx$. [6]