InkMaths

QUESTION WORKBOOK

Integration as antidifferentiation

Integration · Year 12–13

7 questions · 20 marks

NAVY SCREEN EDITION

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SECTION A · Warm-up

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

A2 Explain why every indefinite integral carries a + c. [2]

SECTION B · Standard

B1 Find $\int(6x^5 - 3/x^2)\,dx$. [3]

B2 Find $\int(2\sqrt{x} + 1/\sqrt{x})\,dx$. [3]

B3 A curve has $dy/dx = 3x^2 - 2$ and passes through $(2, 5)$. Find its equation. [4]

B4 Verify by differentiation that $x^6 + 3/x + c$ is the integral found in the earlier question. [3]

SECTION C · Stretch

C1 Find $\int (x^2 + 1)^2 \, dx$. [3]