



QUESTION WORKBOOK

Integrating standard functions

Integration · Year 12–13

7 questions · 23 marks

NAVY SCREEN EDITION

SECTION A · Warm-up

A1 Find $\int \cos 2x \, dx$, and $\int \sin 4x \, dx$. [2]

A2 Find $\int e^{3x} \, dx$, $\int (1/x) \, dx$ and $\int \sec^2 x \, dx$. [3]

SECTION B · Standard

B1 Find $\int (e^{2x} + 3/x + \sin 2x) \, dx$. [3]

B2 Find the exact value of $\int_1^{e^2} (3/x) \, dx$. [3]

B3 Find the exact value of $\int_0^{\pi/6} \cos 3x \, dx$. [3]

B4 Find $\int \cos^2 x \, dx$. [4]

SECTION C · Stretch

C1 Show that $\int_0^{\pi/8} \sin^2 2x \, dx = \pi/16 - 1/8$. [5]