



QUESTION WORKBOOK

Complex arithmetic and the Argand diagram

Complex numbers · Year FM

6 questions · 20 marks

NAVY SCREEN EDITION

SECTION A · Warm-up

A1 Given $z = 3 + 2i$ and $w = 1 - 4i$, find $z + w$ and $z - w$. [2]

A2 With $z = 3 + 2i$ and $w = 1 - 4i$, find zw in the form $a + bi$. [3]

SECTION B · Standard

B1 Express $(2 + 3i)/(1 - i)$ in the form $a + bi$. [4]

B2 For $z = 3 + 4i$, find $|z|$, state where z and its conjugate sit on an Argand diagram, and give the geometric relationship between them. [3]

- B3** Solve $z^2 - 4z + 13 = 0$, giving both roots in the form $a + bi$, and state the relationship between them. [4]

SECTION C · Stretch

- C1** Find the real numbers x and y such that $(x + yi)(2 - i) = 5$. [4]