Complex Numbers & Matrices (Q 3, Paper 1)

Lesson No. 1: Complex Number Algebra

2004

3 (b) (ii) $w_1 = a + ib$ and $w_2 = c + id$. Prove that $\overline{(w_1 w_2)} = (\overline{w_1})(\overline{w_2})$, where $\overline{w}$ is the complex conjugate w.

2003

3 (b) (i) Given that $z = 2 - i$, calculate $\left|z^2 - z + 3\right|$ where $i^2 = -1$.

2001

3 (a) Let $u = \dfrac{1+3i}{3+i}$ where $i^2 = -1$.

(i) Express u is the form $a + ib$ where $a, b \in \mathbf{R}$.

(ii) Evaluate $|u|$.

Answers

2003 3 (b) (i) 5

2001 3 (a) (i) $u = \frac{3}{5} + \frac{4}{5}i$ (ii) $|u| = 1$