Course 2328 Complex Analysis

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Due: Friday, at the end of the lecture

Exercise 1

Find zw, z/w, z^{-99}, for

(i) $z = 1 - i$, $w = 3i + 3$.

(ii) $z = -i$, $w = 2i$.

Exercise 2

Find all values of the roots:

(i) $\sqrt{1 - \sqrt{3}i}$;

(ii) $\sqrt[4]{-3i}$;

(iii) $\sqrt[3]{i - 1}$.

Exercise 3

Sketch the set of points give by the condition:

(i) $0 < |z| < 1$;

(ii) $1 < |2z + i| < 2$;

(iii) $\mathsf{Re}((1 - i)z) \geq -1$.