

1.

$$f(z) = z^4 - 6z^3 + az^2 + bz + 145$$

where a and b are real constants.

Given that $2 + 5i$ is a root of the equation $f(z) = 0$

(a) determine the other roots of the equation $f(z) = 0$

(7)

(b) Show all the roots of $f(z) = 0$ on a single Argand diagram.

(2)