

Further algebra and functions – A2 Further Mathematics P1

1. June/2022/Paper_7367/01/No.5(b)

It is given that $z = -\frac{3}{2} + i\frac{\sqrt{11}}{2}$ is a root of the equation

$$z^4 - 3z^3 - 5z^2 + kz + 40 = 0$$

where k is a real number.

(b) Given that $x \in \mathbb{R}$, solve

$$x^4 - 3x^3 - 5x^2 + kx + 40 < 0$$

[1 mark]
