

7.

$$f(z) = z^3 - 8z^2 + pz - 24$$

where p is a real constant.

Given that the equation $f(z) = 0$ has distinct roots

$$\alpha, \beta \text{ and } \left(\alpha + \frac{12}{\alpha} - \beta \right)$$

(a) solve completely the equation $f(z) = 0$

(6)

(b) Hence find the value of p .

(2)