1.

$$f(z) = z^4 + 6z^3 - 3z^2 - 96z - 208$$

(a) Use your calculator to solve the equation $f(z) = 0$

(2)

(b) Hence, or otherwise, show that $f(z)$ can be written as

$$(z^2 - a)(z^2 + bz + c)$$

where a, b and c are real constants to be determined.

(3)