Question 2 **(6 marks)**

Consider the function $P(z) = z^4 - 2z^3 + 14z^2 - 8z + 40$, defined over the complex numbers.

(a) Show that $(z - 2i)$ is a factor of $P(z)$. (2 marks)

(b) Hence or otherwise, solve the equation $P(z) = 0$, giving solutions in the form $a + bi$. (4 marks)