Question 9 **(4 marks)**

Consider the complex equation $z^n - 1 = 0$, where n is any positive integer $n \geq 3$.

If the roots are designated as $z_0, z_1, z_2, \ldots, z_{n-1}$, then determine the exact value for the product of the roots $p = z_0 \times z_1 \times z_2 \times \ldots \times z_{n-1}$.