Find the absolute maximum and absolute minimum and the places where they occur for the function

\[ f(x) = x^3 - 3x + 5, \quad -2 \leq x \leq 3. \]

**Solution:** Compute the first derivative \( f'(x) = 3x^2 - 3 \). Then find the stationary points by solving \( f'(x) = 0 \). This gives \( x = \pm 1 \). Next, compare the values of \( f \) at these two points with its values at the endpoints, \(-2\) and \(3\). Thus \( f(-2) = 3, f(-1) = 7, f(1) = 3, \) and \( f(3) = 23 \). Therefore, the absolute minimum of \( f \) is 3 and it occurs twice, at \(-2\) and \(1\), and the absolute maximum is 23 which occurs at 3.