1. Find the value of $c$ that satisfy the Mean Value Theorem

\[
y = \begin{cases} 
2x - 3, & 0 \leq x \leq 2 \\
6x - x^2 - 7, & 2 < x \leq 3
\end{cases}
\]
2. Consider the function

\[ g(x) = x^{2/3}(x + 5) \]

(a) Find the intervals on which the function is increasing and decreasing
(b) Find the local extreme values.