Math 241 Spring 2019 Professor MG
Classwork 6 Name: _____

Show all work and circle/box your final answer. All answers must be simplified unless stated otherwise.

1. Find the absolute extrema of $f(x) = 3x^4 - 4x^3$ on the interval $[-1, 2]$
2. Find the absolute maximum and minimum values of the function $f(x) = \dfrac{x}{(2x+1)^2}$ on $0 \le x \le 2$
3. Find all values of c that satisfy the conclusion of the mean value theorem for the function $f(x) = x^2 - 5x + 4$ on the interval $[1, 4]$
4. Show that $x^5 + 10x + 3 = 0$ has exactly one solution.
5. Show that $f(x) = x^4 + 3x + 1$ has exactly one zero in the interval $[-2, -1]$