NAME(S):

1. Find the absolute maximum and minimum values of the function over the interval:

a) $f(x) = (x^2 - 1)^3$, $[-2, 1]$

b) $f(x) = x^3 - 6x^2 + 9x + 2$, $[-2, 3]$

c) $f(x) = x + \cos x$, $[0, 2\pi]$

d) $f(x) = |\sin x|$, $[-\frac{\pi}{2}, \pi]$

2. Prove that $f(x) = x^3 + x^2 + x + 1$ has no local extremes.

3. Prove that $f(x) = x^{101} + x^{51} + x + 1$ has no local extremes.