Name:_____   Score:_____

Instructions: You must show supporting work to receive full and partial credits. No text book, notes, formula sheets allowed.

1(3pts) Approximate the integral $\int_1^2 \sqrt{x^3 - 1}\,dx$ by the Trapezoidal Rule, T_n, with $n = 2$.

2(3pts) Determine if the improper integral converges or diverges by **definition**, $\int_1^\infty \frac{\ln x}{x}\,dx$.

3(4pts) Use the Limit Comparison Test (or the Direct Comparison Test) to determine if the improper integral $\int_3^\infty \frac{\sqrt{x}+1}{x^2+x+1}$ converges.

(... The End)