You are encouraged to work in groups of two to four on this assignment and make a single group submission. Each problem is worth 5 points. For full credit indicate clearly how you reached your answer. All work must be legible and submitted on clean paper without ragged edges.

- 1. Use a Monte Carlo method (with at least 100 trials) to approximate π .
- 2. Use a Monte Carlo method (with at least 100 trials) to approximate $\int_0^1 \sqrt[4]{1-x^4} dx$.