

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 7th degree MacLaurin Polynomial to approximate $\ln 1.7$ to 8 decimal places.

2. Use a 6th degree MacLaurin Polynomial to approximate $\int_0^{0.1} \sin(x^2) dx$ to 8 decimal places.

Compare to *Mathematica's* value.

3. Use a 6th degree MacLaurin Polynomial to approximate $\int_0^{0.2} \frac{\sin x}{x} dx$ to 8 decimal places.

Compare to *Mathematica's* value.

4. Approximate $\sqrt{3}$ to 8 decimal places using an appropriate series. Compare to the true value.