

Calculus II Project 2:

Select your project team: (Recommended: 1-2 students.)

1. Name: _____ Sec: _____
Email: _____ Phone: _____
IM: _____ Facebook: _____
2. Name: _____ Sec: _____
Email: _____ Phone: _____
IM: _____ Facebook: _____

Please indicate 3 choices.

Possible Projects from Chapter 12.

12.19: ___ Curves Generated by Rolling Circles

12.20: ___ The Wankel Rotary Engine

12.21: ___ Shakespeare's Shylock

12.23: ___ Pension Funds

Possible Design Project

___ Goblet Design Project

Possible Maplets:

1. Integrals:

2. ___ Int by Parts Twice and Solve

Compute integrals of products of trig and exponential functions.

3. ___ Hard Trig Integrals

Compute integrals of products of even powers of trig functions.

Differential Equations:

4. ___ Kirchoff's Laws

Set up the differential equation for a single circuit with resistance, capacitance and inductance.

5. ___ Electric Circuits

Solve the differential equations describing the charge or current in an electric circuit with resistance and either capacitance or inductance.

Sequences and Series:

6. ___ New Numerical Series from Old

Combine series using sums, differences and constant multiples.

7. ___ Power Series: Interval of Conv

Given the center and radius of convergence of a power series, find its interval of convergence.

8. ___ New Power Series from Old

Combine power series using sums, differences, constant multiples, substitutions, derivatives and integrals.

9. ___ Compute Taylor Polynomials

Compute a Taylor polynomial for a function.

10. ___ Approximate functions using Taylor Polynomials

Approximate the value of a function using a Taylor polynomial at a nearby point.

11. ___ Compute Taylor Series

Find the general term of the Taylor series for a function.

12. ___ New Maclaurin Series from Old

Combine Maclaurin series using sums, differences, constant multiples, substitutions, derivatives and integrals.

13. ___ Summing Series Using Maclaurin Series

Sum a numerical series by evaluating a Maclaurin series.

14. ___ Deriv by Taylor Series

Evaluate a higher order derivative by looking at the coefficients of a Taylor series.

Other:

15. ___ Title: _____

Description: _____