Problem Set 2Calc 2Due 4/30/19

You are encouraged to work in groups of two to four on this assignment and make a single group submission. Each problem is worth 1 point. For full credit indicate clearly how you reached your answer. All work must be legible and submitted on clean paper without ragged edges.

1. Write the first half dozen non-zero terms of the Maclaurin series for $\cos x$.

2. Write the first half dozen non-zero terms of the Maclaurin series for $\sin x$.

3. Write the first dozen terms of the Maclaurin series for e^x .

4. Notice how those almost fit together? \Box

5. Write the first half dozen non-zero terms of the MacLaurin series for $i \cdot \sin x$.

6. Write the first dozen terms of the MacLaurin series for $\cos x + i \cdot \sin x$.

7. Write the first dozen terms of the Maclaurin series for e^{ix} .

8. Notice how those really do fit together? \Box

9. Use your result from #8 to find the value of $e^{i\pi}$.

10. It's traditional at this point to say "We know that it's true, but we don't know what it means." □