

This assignment is due at 11:59 p.m., Sunday, March 31st,

1. Please print your name at the top of the first page of your assignment.
2. This is a formative as well as a summative assessment, so please leave room on your pages for your instructor's annotations.
3. Use only white paper with no lines. No graph paper. No highlighters. Circle final answers where appropriate.
4. Only white background for your PDFs. No college-ruled paper or Smartphone photos of a spiral notebook.
5. Amateur photos/scans of written work that are gray or difficult to read, or have black or colored borders will be sent back for revision, possibly with a penalty. That said, many get good results with CamScanner.
6. Ask me anything you want about these two graphing exercises. Ask no one else. Do your own work.

SHOW ALL WORK. USE A LEGEND AND LETTER LABELS TO LABEL KEY POINTS, AS DEMONSTRATED IN CLASS. CIRCLE FINAL ANSWERS AND IMPORTANT 'SUB-ANSWERS.'

I DO NOT ACCEPT WORK ON RULED PAPER. I WANT YOU DOING MATH ON PLAIN WHITE PAPER.

1. (10 pts) Sketch the graph of the trigonometric polynomial $f(x) = 2x^3 + 3x^2 - 36x - 54$. Your graphs must capture the essence of the shape, especially the intercepts, local and absolute extremes, concavity features. Label key points on the graph.
2. (10 pts) Sketch the graph of $R(x) = \frac{x^2 - 4x + 3}{x + 1}$. Show all intercepts, extremes, asymptotes (vertical and oblique), inflection points, and end behavior (This one has an oblique asymptote.). If you're a slave to scale, you can lose the essence of the graph's main features.
3. (10 pts) Sketch the graph of $g(x) = \sin(2x) + x$. Show all local and absolute extremes and inflection points, as well as all x - and y -intercepts.