MATH 1500 CURVE SKETCHING

ORGANIZE YOUR WORK!

1. **What can I learn from $f(x)$?**

   (domain, intercepts, symmetry, periodicity, asymptotes. . .)

   range is useful but often difficult or impossible to compute

2. **What can I learn from $f'(x)$?**

   (critical numbers give horizontal and vertical tangents, intervals of increase and decrease, local extreme points)

3. **What can I learn from $f''(x)$?**

   (critical numbers of f' give intervals of concavity, inflection points)

4. **Give a neat sketch of the graph** using all the information gained in the first three steps:

   - Use a straightedge to draw the coordinate axes, at right angles.
   - Use a ruler to ensure a uniform scale of measurement on each axis (separately).
     You do not have to be "geometrically" exact, but you must be neat.
   - Transfer information Steps 1, 2 and 3 carefully (in light pencil) to your sketch.
     Indicate asymptotes by dotted straight lines.
   - Connect everything together neatly, and only draw in a heavy line when you are satisfied with the outcome.
   - Label your sketch.

5. You can lose marks for bad presentation even if the work is accurate.