

# AP Calculus AB Extra Credit Opportunities

Each student may perform ONE of the following tasks for 2% extra credit added to their grade at the end of the year. Students may work in groups of up to 3 people.

1. Curve Sketching Project

- a. Sketch  $f$ ,  $f'$ , and  $f''$  on wax paper and answer questions about each function in a table (see Mrs. Sutton for additional hand-out).
- b. Present your table in a PowerPoint to show the class.

2. Solid of Revolution in the real world Project

- a. Find a solid (edible is best!) that can be modeled by a function revolving around an axis. Decide which function best models this shape, and estimate the volume of the object.
- b. Bring the solid to class and present your function, a graph (illustrated to show the object you chose), and the volume calculation (including the integral you used) in a PowerPoint presentation.

3. Calculus Song Project

- a. Write or re-write a song to review calculus concepts.
- b. Make a music video and either upload to YouTube, bring a DVD, or perform the song live for the class.

**You may turn in your project any time BEFORE the week of your AP test (due no later than May 4<sup>th</sup>).**