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Chapter 1 AP Calc AB Activity

Print this out and write on it with pen/pencil and then scan/upload it into the hand-in box as a single word doc or pdf. Providing you've shown work/justification for each question, **which is so important for AP**, you'll get the completion mark (1/1) and be able to check your solutions with the detailed solutions available directly beneath the Activity's hand-in box, on the course page. Also, **don't worry if you get some wrong!** This is simply designed to help you think in terms of *justifying work* (and I just picked some specific questions which you'll see here and there throughout AP – so don't worry if it's still not fresh yet ☺.)

1. Using Graphing Technology, find the x AND y-intercept(s) of $y = \frac{4x-x^3}{4x^2+9}$.
2. For the function $f(x) = 3x - 5x^2$, find the value of $f(2t - 1)$ in simplified form.
3. For $f(x) = 2x + 1$, find the value of $\frac{f(x)-f(3)}{x-3}$ and simplify as much as possible.

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4. Write $g(x) = |3x - 6|$ as a piecewise function.

5. What is the domain of $g(x) = \sqrt{x-1} + \sqrt{3x}$?

6. Evaluate $g(-x)$ in the function $g(x) = x \sin x$ to determine whether $g(x)$ is EVEN, ODD, or NEITHER.