

Math 106 Fall 2019 Chapter 1 Written HW Due Friday Sept 27th

Your work should be written NEATLY on a separate sheet of paper. If there are multiple pages, please STAPLE all pages together. Do NOT fold over the corner. Place the completed homework under my door (Thompson 311) or take a picture of each page and email it to me.

- 1: Find the equation of the line that goes through the points  $(-1, 4)$  and  $(3, 7)$ .
- 2: Differentiate  $y = x^7 + x^3$
- 3: Differentiate  $y = x^4 - \frac{4}{x}$
- 4: If  $g(t) = \frac{1}{4}(2t - 7)^4$ , what is  $g''(3)$
- 5: Compute  $\frac{d}{dP}(\sqrt{1 - 3P})$
- 6: Find  $f'(t)$  if  $f(t) = \frac{2}{t - 3t^3}$
- 7: What is the slope of the graph of  $f(x) = x^3 - 4x^2 + 6$  at  $x = 2$ ? Write the equation of the line tangent to the graph of  $f(x)$  at  $x = 2$ .
- 8: Determine the equation of the tangent line to the curve  $y = (2x^2 - 3x)^3$  at  $x = 2$