

Worksheet 0 — Math 126 — Summer 2010

The goal of this worksheet is to help you review concepts you learned in Math 124 and Math 125. Work in groups. You may need to use your own scratch paper.

1. What are the names of the people in the your group?
2. If your group were to go see a movie together, which would you see?
3. What is the derivative of $f(x) = x \sin \sqrt{x}$?
4. What is the derivative of $g(t) = \sin \left(\sqrt[3]{\frac{t^2}{7} + 5} \right)$?
5. What is $\int \frac{3x}{x^2 - x - 6} dx$? [Use partial fractions]
6. What is $\int_1^2 \frac{1}{x(\ln x)^4} dx$? [Use u -substitution]
7. A particle is traveling along a curve. At time t , its position is

$$\begin{aligned}x(t) &= t^3 + t^2 + t \\y(t) &= t^4 + t^3 + t^2 + 1\end{aligned}$$

Find the equation of the tangent line to the curve at time $t = 1$.