

Maple Lab # 3

Calculus 2, Sections 13-16

Due: Monday, March 31, 2003

You are encouraged to collaborate on all phases on this project. However it is expected that each student will prepare their own write-ups, using their own words and reflecting on their own insight. Any hint of exchanging files or copying sentences or phrases will be considered an act of academic dishonesty. In particular making an electronic version of a computer file available to another student will be treated as a dishonest act.

Consider the vector valued function:

$$r(t) = [t, t^2, t^3]$$

- 1) Plot the function for values of t from 0 to 10.
- 2) Plot the vectors $r(1/4)$, $r(1/2)$ and $r(1/2) - r(1/4)$ on the graph in part 1.
- 3) Find and compare $r'(1/4)$ with $\frac{r(1/2) - r(1/4)}{1/2 - 1/4}$.