

MATH 170 – Final Examination

Take home portion

You must show all of your work to receive full credit. You are expected to use Maple to help you solve these problems. Decimal approximations are acceptable answers. Please print out your Maple work and hand it (and any additional commentary) in by 1530 on 11 May 2005. GOOD LUCK!

Let $f(x) = \tan(x^2 - \cos(\sqrt{x}))$.

- a) Use Maple to graph this function.
- b) Based on your picture in part a), give approximate coordinates for the point on the graph closest to the point $(1, -\frac{1}{2})$.
- c) Determine which point on the graph is closest to the point $(1, -\frac{1}{2})$.
- d) What is the distance from the point $(1, -\frac{1}{2})$ to the point you found in part c)?