

Math 026L.04 Spring 2002

Quiz #6

Name: _____

You have 20 minutes to complete this quiz which is worth 20 points. Calculators are permitted, but no other aids are allowed. Show all work neatly and in order, and clearly indicate your final answers. Answers must be justified whenever possible in order to earn full credit. When you do use your calculator, sketch all relevant graphs and write down all relevant mathematics.

1. (20 points) Consider $\int_2^3 \sin(t^2) dt$.

(a) Compute a left hand Riemann sum with 2 subdivisions.

(b) Compute a left hand Riemann sum with 10 subdivisions.

(c) Compute a left hand Riemann sum with 100 subdivisions.

(d) Compute a right hand Riemann sum with 2 subdivisions.

(e) Compute a right hand Riemann sum with 10 subdivisions.

(f) Compute a right hand Riemann sum with 100 subdivisions.

(g) Estimate the value of $\int_2^3 \sin(t^2) dt$ by using your left hand sums and right hand sums to bound the true area on either side.