Quiz 1

The quiz is 25 minutes long and (typically) 1 or 2 pages for a total of 20 points. This quiz has two pages.

1. Evaluate. *Hint: use algebra to simplify first.* (4 pts.)

$$\int \left(\frac{e^{\sqrt{3}} + x^2}{\sqrt{x}} \right) \, dx$$

2. Find the EXACT average value of the function $y = e^{x/3}$ over the interval $[0, \ln(8)]$. Simplify your answer for full credit. (5 pts.)

3. Evaluate the indefinite integral $\int \left(5 \sec(x) \tan(x) - \dfrac{2}{x^2} - \dfrac{1}{1 + 16x^2} \right) dx.$ $\qquad$ (5 pts.)

4. Find a closed formula for the right-endpoint approximation of the area under $y = x^2 - 4$ over the interval $[0, 2]$ using n rectangles. $\qquad$ (6 pts.)