

Math 132 - Quiz 8

October 26, 2022

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary. This quiz is due October 31.

1. (2 points) Use the trapezoid rule over 5 subintervals to approximate $\int_1^3 \frac{e^x}{x} dx$.

2. (2 points) Use Simpson's rule over 4 subintervals to approximate $\int_0^4 (x^3 + 5x) dx$.
Compare your answer to the exact value of the integral.

Turn over.

3. (3 points) Suppose s is a positive constant. Evaluate the improper integral $\int_0^{\infty} x e^{-sx} dx$.

4. (2 points) Evaluate $\int_{-1}^1 \frac{1}{x^2} dx$.

5. (1 point) Explain why $\int_0^{\infty} \frac{e^{-\sqrt{x}}}{\sqrt{x}} dx$ is improper.