

Quiz 3 — 09/14/17

Name: _____ Section and/or TA: _____

Answer all questions in a clear and concise manner. Unsupported answers will receive *no credit*.

1. (3 points)

(a) (2 points) Use the Trapezoid rule with $n = 5$ compute $\int_1^2 \frac{1}{x} dx$. Be sure to compute your answer to at least four decimal places.

(b) (1 point) What is the exact value of this integral? Compute the absolute error in the approximation you found in part (a). You may use a calculator to obtain a decimal value for the exact definite integral.

2. (2 points) Determine whether the following improper integral converges or diverges. If it converges, compute the limit. Be sure to show your work!

$$\int_1^{\infty} \frac{1}{x^2 + 3x + 2} dx$$