

Answer all questions and show your work. Unsupported answers may receive *no credit*. You may not use a calculator on this quiz. Allow 15 minutes for the quiz.

Name: \_\_\_\_\_ Section: \_\_\_\_\_

1. (5 points) Is the integral  $\int_1^{\infty} \frac{\ln x}{x} dx$  convergent or divergent? (Justify your answer!) If it is convergent compute the integral.

2. Let  $a_n = \frac{n-1}{n+1}$ .

- (a) (2 points) What are the first 3 terms of the sequence?

- (b) (3 points) What is the limit of the sequence?