

**Quiz #6**

Quiz Section: \_\_\_\_\_

SHOW YOUR WORK

1 (5 points) Compute the arc length of the curve  $y = \ln(x) - \frac{x^2}{8}$  for  $1 \leq x \leq 4$ .

2 (5 points) Does the improper integral  $\int_0^{\infty} t e^{-t} dt$  converge? If it does, compute its value.