

PRINT Your Name: _____

Quiz 1 — January 13, 2012 – Section 7 – 11:15 – 12:05

Remove everything from your desk except this page and a pencil or pen.

Circle your answer. **Show your work.**

The quiz is worth 5 points.

Find $\int_e^{e^4} \frac{dx}{x\sqrt{\ln x}}$.

Answer: Let $u = \ln x$. Then $du = \frac{1}{x}dx$. When $x = e$, then $u = 1$. When $x = e^4$, then $u = 4$. The integral is equal to

$$\int_1^4 u^{-1/2} du = 2\sqrt{u} \Big|_1^4 = 2\sqrt{4} - 2\sqrt{1} = \boxed{2}.$$