

Written Homework 17

Math 126

Solve each of the following problems. Write your solutions clearly and neatly on separate paper, explaining your reasoning with complete sentences. Submit your work either in class or in the homework mailbox (RMS level 3, near the fireplace) by 4:00pm on **Wednesday, December 11**.

1. Find the volume of the region under the surface $z = \sqrt{x+y}$ and above the region $R = [0, 1] \times [0, 1]$.

2. Evaluate the double integral

$$\iint_R e^{y^2} dA$$

where $R = \{(x, y) \mid 0 \leq y \leq 1, 0 \leq x \leq y\}$.

3. Evaluate the double integral

$$\iint_R (x+y) dA$$

where R is the region in the xy -plane bounded by $y = 0$, $y = x^2$, and $x = 1$.