

Calc 3 questions
undertext

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Chapter 1

testing

1.1 questions

Oppgave

Evaluate the double integral

$$\iint_R x^2 dA.$$

where R is the region bounded by $y = x^2$ and $y = 2x$.

Solution: First, find the intersection points of $y = x^2$ and $y = 2x$:

$$x^2 = 2x \implies x^2 - 2x = 0 \implies x(x - 2) = 0.$$

so $x = 0$ and $x = 2$. The region R is described by $x^2 \leq 2x$ for $0 \leq x \leq 2$.

set up the integral:

$$\iint_R x^2 y dA.$$