

Quiz 9 3/20/09

1. In the Riemann sum 58.4 for a double integral over $R = [1, 5] \times [2, 10]$. @ what is the area of each subrectangle? and $\Delta x = \frac{4}{8} = \frac{1}{2}$ $\Delta y = \frac{8}{4} = 2$.

(b) How many subrectangles are there?

$8 \times 4 = 32$

2. what is the integral of the constant function $f(x, y) = 3$ over the rectangle $[-2, 3] \times [2, 4]$?

$\iint_R f(x, y) dA = \int_{-2}^3 \int_2^4 3 dy dx = 3 \times (5) \times (2) = 30$

3. which of the four regions in the given figure is the domain of integration for

$\int_{-\frac{\sqrt{2}}{2}}^0 \int_{-x}^{\sqrt{1-x^2}} f(x, y) dy dx$?

