

"QUIZ" for Lecture 12

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E-MAIL SCANNED .pdf OF COMPLETED QUIZ to DrZcalc3@gmail.com (Attachment: q12FirstLast.pdf) ASAP BUT NO LATER THAN Oct. 19 8:00pm

1. Calculate the iterated integral

$$\int_1^2 \int_{-1}^1 (x+y^2) dx dy$$
$$\rightarrow \int_{-1}^1 (x+y^2) dx = \left. \frac{x^2}{2} + xy^2 \right|_{-1}^1 = \left( \frac{1}{2} + y^2 \right) - \left( \frac{1}{2} - y^2 \right) = 2y^2$$
$$\rightarrow \int_1^2 (2y^2) dy = \left. \frac{2y^3}{3} \right|_1^2 = \left( \frac{16}{3} - \frac{2}{3} \right) = \boxed{\frac{14}{3}}$$

2. Calculate the double integral

$$\iint_R \frac{x^2 y}{x^3 + 1} dA$$
$$R = \{(x, y) \mid 0 \leq x \leq 1, -1 \leq y \leq 1\}$$
$$\rightarrow \left( \int_0^1 \frac{x^2}{x^3+1} dx \right) \left( \int_{-1}^1 y dy \right) = 0$$

→ Since the right one is 0, this all evaluates to 0.