

“QUIZ” for Lecture 14

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E-MAIL SCANNED .pdf OF COMPLETED QUIZ to DrZcalc3@gmail.com (Attachment: q14FirstLast.pdf) ASAP BUT NO LATER THAN Oct. 26, 8:00pm

1. Evaluate the iterated integral

$$\int_0^1 \int_x^{3x} \int_0^y x^2 y z \, dz \, dy \, dx \quad .$$

$$\int x^2 y z \, dz \quad z=0 \dots y \\ = x^2 y^3 / 2$$

$$\int x^2 y^3 / 2 \, dy \quad y=x \dots 3x \\ = 80x^6 / 8$$

$$\int 80x^6 / 8 \, dx \quad x=0 \dots 1 \\ = 10/7$$

2. Evaluate the triple integral

$$\iiint_E yz \ln(x^5) \, dV \quad ,$$

where

$$E = \{(x, y, z) \mid 0 \leq x \leq 1, 0 \leq y \leq x, 2x \leq z \leq 3x\} \quad .$$

$$\int (\int (\int y^*z*\ln(x^5) \, z=2x \dots 3x \, y=0 \dots x \, x=0 \dots 1))$$

$$\int y^*z*\ln(x^5) \, dz \quad z=2x \dots 3x \\ = y \ln x^5 (9x^2/2 - 2x^2)$$

$$\int y \ln x^5 (9x^2/2 - 2x^2) \, dy \quad y=0 \dots x \\ = \ln x^5 (9x^2/2 - 2x^2) * x^2/2$$

$$\int \ln x^5 (9x^2/2 - 2x^2) * x^2/2 \, dx \quad x=0 \dots 1 \\ =$$