

"QUIZ" for Lecture 18

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E-MAIL SCANNED .pdf OF COMPLETED QUIZ to DrZcalc3@gmail.com (Attachment: q18FirstLast.pdf) ASAP BUT NO LATER THAN Nov. 9, 8:00pm

1. Let C be the line segment from $(0, 1)$ to $(2, 3)$, find $\int_C xy \, ds$.

$$\begin{aligned} 0, 1 + t(2, 3) &= 2t, 1+3t \\ x &= 2t \quad y = 1+3t \quad 0 < t < 1 \\ \sqrt{2^2 + 3^2} &= \sqrt{13} \\ \int_0^1 2t \cdot (1+3t) \cdot \sqrt{13} \, dt &\rightarrow \text{Maple } 3 \cdot \sqrt{13} \end{aligned}$$

2. Evaluate

$$\int_C xy^2 \, dx + x^2y \, dy,$$

where C is $x = t^2, y = t^3, 0 \leq t \leq 1$.

$$dx = 2t \, dt \quad dy = 3t^2 \, dt$$

$$\begin{aligned} \int_0^1 (t^2)(t^3)^2(2t) + (t^2)^2(t^3)(3t^2) \, dt \\ \text{Maple } \frac{1}{2} \end{aligned}$$