Quiz #12; Tuesday, date: 04/17/2018
MATH 53 Multivariable Calculus with Stankova
Section #117; time: 5 − 6:30 pm
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1. Show that the line integral is independent of path and evaluate the integral.
$$\int_C -\cos y \, dx + (x \sin y - \cos y) \, dy,$$
   where C is any path from $(3, 0)$ to $(1, \pi)$.

2. *True / False?* Fix two points A and B in a domain D. If $\int_C \mathbf{F} \cdot d\mathbf{r}$ is the same for all paths C from A to B, then $\mathbf{F}$ must be conservative on D.

3. *True / False?* Here is another proof of Green's Theorem with holes in it: Suppose the region with hole is D', the hole itself is D_2 and the region D' with the hole filled is D_1. The outer and inner boundaries are C_1 and C_2. We can then apply Green's Theorem to D_1 and D_2, and subtract one integral from the other.