# “QUIZ” for Lecture 19

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# E-MAIL SCANNED .pdf OF COMPLETED QUIZ to [DrZcalc3@gmail.com](mailto:DrZcalc3@gmail.com) (Attach- ment: q19FirstLast.pdf ) ASAP BUT NO LATER THAN Nov. 12, 8:00pm

**1.**

Determine whether or not the vector field

*F* (*x, y, z*) = *y*2*z*3 **i** + 2*xyz*3 **j** + 3*xy*2*z*2 **k**

is conservative. If it is conservative, find a function *f* such that **F** = *∇f* .

**2.** Show that the line integral

2*xy*2 *dx* + 2*x*2*y dy ,*

∫

*C*

is independent of the path *C*, and evaluate it if *C* is *any* path from (1*,* 0) to (0*,* 1).