

"QUIZ" for Lecture 20

NAME: (print!) Fayed Raza Section: 6

E-MAIL SCANNED .pdf OF COMPLETED QUIZ to DrZcalc3@gmail.com (Attachment: q20FirstLast.pdf) ASAP BUT NO LATER THAN Nov. 16, 8:00pm

1. Find an equation for the tangent plane to the parametric surface

$$x = v^2, \quad y = u + v, \quad z = u^2,$$

at the point (1, 2, 1). Simplify as much as you can!

$$\begin{aligned} dx &= 2v & (2, 2, 2) \\ dy &= v \\ dz &= 2u \end{aligned}$$

$$2(x-1) + 2(y-1) + 2(z-1) = 0$$

2. Evaluate the surface integral

$$\iint_S z \, dS,$$

where S is the triangular region with vertices (2, 0, 0), (0, 2, 0), (0, 0, 2).

$$\int_0^1 \int_0^{2-t} (2+t) \, dt \, t^2 \Big|_0^1 = 1$$

~~$x=2$~~ $x=0$
 $y=2+t$ $y=2+t-2$
 $z=0$ $z=2+t$