Calculus III
Answers to and comments on the 2009 test
Dr. Will Sutherland

Referring to the question ordering as posted on the course web page, the correct answers are:

1	Plane through point $\mathbf{a}$ perpendicular to $\mathbf{b}$
2	$2x + xz + 2z$
3	Hyperboloid
4	$\int \sqrt{1 + 4x^2} \, dx$
5	Volume $= 6$
6	Tangent plane: $8x + 7y + 8z = 46$
7	$(\nabla U).\mathbf{F}$
8	Surface integral $= 1$
9	$\nabla \times \mathbf{F} = 2\mathbf{k}$
10	Line integral $= 7/4$

Quick Comments

206 scripts were received, and the inter-quartile scores were 20,24,28 out of a possible 35; just slightly better than last year. Ten students got a perfect score, and about another 30 got nine correct.

Generally the first five questions and the curl were got right by most students; roughly half the students got the tangent plane and the line integral, while most students had problems with the $\nabla \cdot (U\mathbf{F})$ and the surface integral.

Breakdowns and more details for individual questions will be posted here after the marks have been checked.