Name_____ ID_____ Section_____

MATH 253   Maple Quiz   Spring 2004

Sections 505   P. Yasskin

1	/20
2	/30

TO BEGIN THE EXAM:

1. WRITE your NAME, ID and SECTION at the top of this paper.
2. TYPE your NAME, ID and SECTION at the top of the Maple Worksheet.
3. EXECUTE **with(VecCalc): VCalias:**
4. SAVE your worksheet as **yourlastname.mws** NOW and AFTER EACH PROBLEM.
5. NUMBER EACH PROBLEM.
6. Decimal values are OK.

THE EXAM:

1. Find the mass and center of mass of the solid cylinder $x^2 + y^2 \le 4$ for $0 \le z \le 3$ if the density is $\rho = 2 + x + y + z$. Convert the center of mass to cylindrical coordinates and give the angle $\bar{\theta}$ in degrees.
2. Find the equation of the plane tangent to the surface $xy^2z^3 = 12$ at the point $(3, 2, 1)$. Then plot the surface and the tangent plane for $-5 \le x \le 5$, $-5 \le y \le 5$, $-5 \le z \le 5$. Make the surface red and the tangent plane blue. Increase the sampling grid to 25 points in each direction. Orient the plot so you can see there are four separate pieces to the surface.

TO TURN IN YOUR EXAM:

1. Reduce the font to the first magnifying glass. Reduce any plots to about 1.5 inches high.
2. SAVE your file again.
3. In Maple, select: File + Print + Output to File + Print to make a postscript file in your home directory.
4. PRINT your file using **X-Print**.
   - Open a terminal window. (The monitor with a prompt >_ on the bottom toolbar)
   - TYPE: **xprint -J holdout -C Yasskin -d blocker yourlastname.ps** (or the exact name of your postscript file)
   - Press RETURN. The system will ask for your xprint userid and password.
   - Write the Print Identifier here: _____
5. In Maple, select: **Edit + Remove Output + From Worksheet**
6. SAVE your file again.
7. EMAIL your file as follows:
   - To: **yasskin@calclab.math.tamu.edu**
   - Attachment: **yourlastname.mws** (or the exact name of your Maple file)
   - Subject: **Sec 505**
   - Call Dr. Yasskin or your TA over to check your mailing.
   - Send the mail.
8. Turn in this paper, with your name on it, as a grading sheet.
9. Before you leave, check that Dr. Yasskin has received your printout and your email.