

Name_____ ID_____ Section_____

MATH 253

Maple Quiz

Spring 2004

Sections 506

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 point(s) on the sphere $x^2 + y^2 + z^2 = 16$ at which the function $f(x,y,z) = x^3y^2z$ has its absolute maximum. Give the point(s) and the maximum value of f . Use **all values** to split any **RootOf's**.
2. Plot the limaçon $r = \sqrt{2} \cos\theta + 1$. Then find the mass and center of mass of the region inside the large loop if the density is $\rho = 2 + y$. Convert the center of mass to polar coordinates and give the angle $\bar{\theta}$ in degrees. HINT: At what angles is $r = 0$?

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 506**
 - 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.