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 allvalues to split any RootOf’s.
2. Plot the limacon \( r = \sqrt{2} \cos \theta + 1 \). 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 \( \theta \) 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.