

240 - Calculus III: Test 2 Study Guide

Henson - Fall 09

TEST 4 TOPICS:

* You may bring to the test one 3×5 notecard front and back!

**Make sure to know all derivative rules and integration techniques from Calc I and II.

1. Using limits of integration to draw the region (2D) on the xy plane to integrate over.
2. Reversing the order of integration.
3. Determine whether a region is horizontally or vertically simple.
4. Compute the volume under a function $f(x, y)$.
5. Compute a double integral where the region R is broken into two regions: R_1 and R_2 .
6. Compute the volume under a plane.
7. Find the area of a region R on the xy plane.
8. Change the limits of integration from rectangular coordinates to polar coordinates.
9. Integrate in polar coordinates.
10. Compute the surface area of a function over a region R.
11. Compute the volume of a solid in 3D using triple integrals.
12. Compute the mass of a solid using triple integrals.
13. Find the center of mass of a solid.