

Assignment #11 – MATH 2421
Summer 2008

Harder

Name: _____

- Due on Wednesday, 9 July 2008 at 10:30 a.m.
- Attach this cover sheet to this assignment.
- Copy all of your work onto engineering pad paper!
- Give enough details about each problem so that I should NOT need to refer back to the text.

Section 11.2

- (I) Complete Problem #13 on p. 945. [Octant I only, $dy dx$ is preferable.]
Complete Problem #16 on p. 945. [The region is between the parabola and the line.]
- (II) Complete Problem #21 on p. 945. Approximate with Derive5!
- (III) Complete Problem #23 on p. 945. Use ONLY the $dy dx$ region in Quadrant II!
Also, note that we prefer to use the Greek letter $\sigma(x, y) = 4$ for the density functions.
[We use “rho” when we are dealing with spherical coordinates later...]
- (IV) Complete Problem #26 on p. 945. The $dx dy$ region is located in both Quadrants I & IV!
 $\sigma(x, y) = y^2 + x + 1$ is always nonnegative for every point on that lamina.

Section 11.3

- (V) TWO PARTS.
Complete Problem #12 on p. 954.
ALSO, how do we change the limits of integration if we want to integrate over the ENTIRE xy -plane?
DO IT (the answer is finite)!
- (VI) Complete Problem #18 on p. 954. (Requires integration by parts <bwa-ha-ha!>.)
- (VII) [Similar to Problem #21 on p. 954.]
Evaluate
- $$\iint_R \sqrt{x^2 + y^2} dA$$
- where R is the region between the circles $x^2 + y^2 = 4$ and $x^2 + y^2 = 9$ and $y \geq 0$.
This is ONE-HALF on an annulus.
- (VIII) Complete Problem #33 on p. 954. Definitely, SKETCH the region. YES, it is polar friendly!!!
- (IX) Complete Problem #41 on p. 954. The circle is NOT centered at the origin! Yes, the answer is finite!