

Homework 11, due Friday 4/8

1. Let C be the triangle given by $A = (0, 0)$, $B = (0, 1)$, $C = (1, 1)$. View C as a directed simple curve with counterclockwise orientation. Compute $\int_C \mathbf{F} \cdot ds$
 - (a) with $\mathbf{F}(x, y) = (\sin(x)y, -yx)$,
 - (b) and $\mathbf{F}(x, y) = \nabla f(x, y)$ where $f(x, y) = e^{\sqrt{y}x} \sin(x \cos(y))$.
2. p. 448, problems 7 (for $n = 1$ and $n = 2$), 9, 12.
3. p. 449, problems 14, 16.
4. p. 459, problems 1, 2, 4, 5, 7, 8.
5. Find a parametrization for the sphere of radius 4.
6. p. 459, problem 13 (a) – (c)
7. p. 459, problem 14 (for (b) and (c) recall methods from previous chapters),