Math 32B-1: Calculus of Several Variables – Homework 2
Due: January 15, 2016

Exercise 1 (Based on Rogawski-Adams).

Compute the following integrals:

(1) $\displaystyle\int\int_D \frac{1}{(x+y+1)^2}\,\mathrm{d}A$, where $D \subset \mathbb{R}^2$ is the triangle with vertices $(0,0); (4,0)$ and $(0,8)$.

(2) $\displaystyle\int_{1/2}^{\pi/2}\int_1^{2x} \cos(2x+y)\,\mathrm{d}y\,\mathrm{d}x$.

(3) $\displaystyle\int\int_D \sin x\,\mathrm{d}A$, where $D \subset \mathbb{R}^2$, where D is bounded by the curves $x=0$, $x=1$, $y=\cos x$ and $y=0$.

(4) $\displaystyle\int\int_D \frac{1}{x+y}\,\mathrm{d}A$, where D is bounded by the curves $y=x$, $y=1$, $y=e$ and $x=0$.

Exercise 2 (Based on Rogawski-Adams).

Exercises 30, 32, 36, 42 in Section 16.2. from the textbook.

Exercise 3 (Based on Rogawski-Adams).

Exercises 44, 56, 58(a), 60 in Section 16.2. from the textbook.

Exercise 4 (From Rogawski-Adams).

Exercises 2, 4, 12, 16 in Section 16.3. from the textbook.