# Math 32B-2: Calculus of Several Variables – Homework #2

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Due: April 12, 2019

**Exercise 1** (Based on Rogawski-Adams)**.**

Compute the following integrals:

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

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

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

(4) $\iint_D \frac{1}{x+y}\,\mathrm{d}A$, 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.