

## MATH 541, FALL 2023, HOMEWORK 7

Due Saturday, October 28, 2023 at 5pm Eastern time on Gradescope. Solve the following exercises:

**Problem 1.** Lawler, exercise 5.1.

**Problem 2.** Lawler, exercise 5.2.

**Problem 3.** Let  $\mu \in \mathbb{R}^2$ , let  $\Sigma$  be a positive-definite  $2 \times 2$  matrix, and let  $(Y, Z) \sim N(\mu, \Sigma)$ . Compute  $\mathbb{E}[Y | Z]$ .