MATH 20C
WINTER 2020
SECTION D00 (MANNERS)

HOMEWORK – WEEK 10

This homework is recommended practice but will not be turned in or graded.

0. Do the following textbook problems.

§5.4: 1, 3, 5, 7
§5.5: 3, 5, 19, 23

(*0 points*)

1. Evaluate

$$\int_{y=0}^{1} \left(\int_{x=\sqrt{y}}^{1} e^{x^3} \, dx \right) \, dy$$

by changing the order of integration.

(*0 points*)

2. Compute the triple integral

$$\int\int\int_B x^2 y e^{xyz} \, dV$$

where B is the box $[0,1] \times [0,1] \times [0,1]$.

(*0 points*)

3. Let D be the region defined by the inequalities

$$D = \big\{(x,y,z) \in \mathbb{R}^3 \colon 0 \le x \le y \le z \le 1\big\}.$$

Find

$$\int\int\int_D xyz \, dV.$$

(*0 points*)