Math 13, Winter 2018

Pset 2, due Wed Jan 17

Please show your work. No credit is given for solutions without justification.

(1) Evaluate the double integral $\iint_{\mathcal{D}} 1-2x\, dA$, where $\mathcal{D}$ is the region bounded by the triangle with vertices $(0,0)$, $(2,3)$ and $(5,3)$.

(2) Find the average value of $f(x,y) = \cos(y^2)$ for values of (x,y) with $0 \leq x \leq 1$ and $x \leq y \leq 1$.

(3) Calculate the integral of $f(x,y,z) = e^z$ over the solid tetrahedron $\mathcal{W}$ with vertices $(0,0,0)$, $(4,0,0)$, $(0,4,0)$ and $(0,0,6)$.