
Show all work. 5 points each. Be sure to draw the regions D and perform the integrations by hand. You may use Maple, Wolfram Alpha, ... to check your answers.

1. Evaluate the integral $\iint_D x \, dA$ if D is bounded by $x = y^2$ and $x - y = 2$

2. Evaluate the integral $\iint_D x e^y \, dA$ if D is bounded by $y = x$ and $y = x^2$