Written HW8 – MATH 3503 Fall 2021

Due by 22 September for timely completion credit

In these problems, make sure you draw the region (clearly indicate D in your picture) being integrated over, set them up as **both** $\mathrm{d}y\mathrm{d}x$ and $\mathrm{d}x\mathrm{d}y$-type integrals, and show how you "shoot the arrow". Pick whichever of the two setups that looks easier to you and calculate the numerical value of the integral (**just once!!**).

1. $\iint_D x \mathrm{d}A$ where D is the region bounded by the curves $x = 1$, $y = 0$, and the curve $y = x$.
2. $\iint_D xy \mathrm{d}A$ where D is the region bounded by the curves $y = x^2$, $x = 1$, $x = 2$, and the curve $y = 4$.