Let R be the region in the xy-plane bounded between the parabola $x = y^2+1$ and the line $y = 3 - x$.

(a) Sketch the region. Be sure to label the axes, the curves, the region R, and any points of intersection.

(b) Set-up a definite integral (or a sum of definite integrals, if needed) using integration along the x-axis that computes the area of the region R.

(c) Set-up a definite integral (or a sum of definite integrals, if needed) using integration along the y-axis that computes the area of the region R.

(d) Evaluate one of your integrals (from parts (b) or (c)) to find the exact area of the region R.