

## Questions for recitation 5 March 2021

1. **Test 2 Review:** #4, 5d, 8 and general questions
2. The region bounded by the circle  $(x - 2)^2 + y^2 = 1$  is rotated about the  $y$ -axis, forming a torus (a doughnut shape). Set up, but do not evaluate, integrals for the following. Do not simplify your answers. Complete answers should include a sketch of a typical element of the resulting solid/surface.
  - (a) The volume of the torus
  - (b) The surface area of the torus (Hint: Consider rotating only the semicircle that lies above the  $x$ -axis about the  $y$ -axis and doubling the area of the resulting surface)