

9. [11 points] Consider the region R bounded by $y = 2(1 - e^{-x})$, $y = 1$ and $x = 3$. In this problem, you do not need to evaluate the integrals.
- a. [4 points] Find a definite integral that computes the volume of the solid obtained by rotating the region R about the y -axis.
- b. [7 points] Find a definite integral that computes the volume of the solid with base given by the region R , and whose cross sections perpendicular to the x -axis are semicircles.