

3. (3 points) Let \mathbf{R} be the region bounded by the x -axis and the graph of $y = x^3 - 9x$ on the interval $[0, 3]$. Set up, but do not evaluate, a definite integral for the volume of the solid obtained when \mathbf{R} is revolved around the line $x = 5$.
4. (3 points) An inverted conical tank has a 2 foot radius at the top and is 6 feet high. It is filled to a height of 5 feet with olive oil weighing 57 lb/ft^3 . Set up, do not evaluate, a definite integral which represents the amount of work that it takes to pump the oil to a point 1 foot above the top rim of the tank.