

- Show all your work for each problem; show enough work to fully justify your answer.
- Simplify all answers as far as possible.
- All numerical answers must be in terms of actual numbers and standard constants like π .

(1) [Points: 10] Consider the region R enclosed by the curves $y = 9 - x^2$ and $y = 3 - x$. Find the volume of the solid formed by revolving R around the x -axis. Use whichever method seems best.

- (2) [Points: 10] Let S be the part of R from $x = 0$ to $x = 3$. Find the volume of the solid formed by revolving S around the y -axis. Use whichever method seems best. (I suggest cylindrical shells.)