

Name: _____

Areas and Volumes

For each problem, please find a) the area between the curves, b) the volume of the solid when the region is revolved around the x-axis, c) the volume of the solid when revolved around the y-axis, d) the volume of the solid when revolved around the given line. In addition to identifying the volume as a disk or washer, please include a picture for each part (a-d), the integrand setup with boundaries, and then circle the final answer. Be organized.

- 1) The region bounded by $y = \sqrt{3-x}$, the x-axis and the y-axis. For part d), the line is $y = 3$.
- 2) The region bounded by $y = 3 - 2x$ and $y = 2$, the x and y axes. For part d), the line is $x = -1$.
- 3) The region bounded by $y = 2 - x^2$ and $y = x$, and the y-axis. For part d), the line is $y = 2$.
- 4) The region bounded by $y = \frac{1}{x}$, $x=3$, and $y=2$. For part d), the line is $x=-1$.