## MA114 Summer 2018

## Worksheet 18 - Volumes II - 7/16/18

1. Use the method of disks/washers to find the volume of the solid of revolution generated by rotating the region bounded by $y=1-x^{2}$ and $y=0$ about the line $y=-1$.
2. Use the method of cylindrical shells to find the volume of the solid of revolution generated by rotating the region bounded by $y=x^{2}, y=8-x^{2}$, and $x=0$ for $x \geq 0$ around the $y$-axis.
3. Find an integral expression for the volume of the solid generated by rotating the given region $R$ about the specified axis using any method.
a) $R$ is the region bounded by $y=-x^{2}+6 x-8, y=0$ about the $y$-axis.
b) $R$ is the region bounded by $y=-x^{2}+6 x-8, y=0$ about the $x$-axis.
c) $R$ is the region bounded by $x=(y-3)^{2}, x=4$, about $y=1$.
d) $R$ is the region bounded by $x=(y-1)^{2}, x-y=1$, about $x=-1$.
