4 Dec Recitation Worksheet for MA141

1. Give the formula for the following
   (a) Area of a circle
   (b) Surface area of a cylinder
2. Find the volume of the given region rotated around the x-axis
   (a) $y = 4$,$y = 0$, $x = 2$, $x = 5$
   (b) $y = x^3 + 1$,$y = 0$, $x = 1$
3. Find the volume of the given region rotated around the y-axis
   (a) $y = 4$,$y = 0$, $x = 2$, $x = 5$
   (b) $y = -x^2 + 4$,$y = 0$,$x = 0$ (the region on the right)
   (c) $y^3 + 1 = x$, $x = 0$, $y = 1$
4. Find the volume of the given region rotated around the given line
   (a) $y = -x^2 + 4$,$y = 3$, rotated around the x-axis
   (b) $y = x - 2$,$x = 4$,$y = 0$, rotated around $x = 2$