Consider figure 1 of the functions : $y = \sqrt{x}$, and $y = -x + 6$
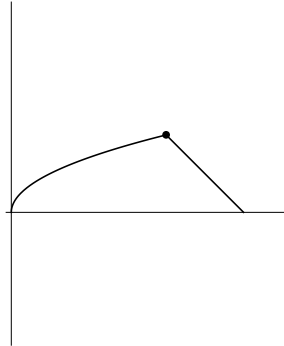

Figure 1:

a- Find the area of the shaded region.

b- Find the volume that is generated by rotating this area around the x-axis.

c- Set up the integral but **don't calculate** to find the volume that is generated by rotating this area around the line $x = 7$.