Find the volume of the solid generated when the region between the graphs of the equations are revolved about the $x$-axis.
1.) $f(x)=\frac{1}{2}+x^{2}$ and $g(x)=x$ over the interval $[0,2]$
2.) $y=x^{2}+1$ and $y=x+3$
3.) $y=x, y=1$ and $x=0$
4.) $y=-\sqrt{x}, y=-2$ and $x=0$
5.) $y=\sqrt{25-x^{2}}$ and $y=3$
6.) $y^{2}=4 x$ and $y=x$

