## Let $g(x)=\sqrt{1-x}$

1. Find the Taylor series expansion for $g(x)$ at $x=0$
2. Simplify $g\left(1-x^{2}\right)$ and sketch its graph
3. Sketch the graph of $h(x)=\frac{1}{2}\left(g\left(1-x^{2}\right)+x\right)$
