Linearization

1. Write a linear approximate for $f(x) = \sqrt{1+x}$ centered at $x = 0$. Use this linearization to estimate $f(0.1)$.

2. Write a linear approximate for $g(x) = \dfrac{1}{2+\sin(\frac{1}{2}x)}$ centered at $x = 0$. Use this linearization to estimate $g\left(-\dfrac{1}{10}\right)$.