

Find the following antiderivatives and *check your answers!*

1.  $\int \frac{1}{1+x^2} dx$

2.  $\int \frac{2x}{1+x^4} dx$

3.  $\int \frac{1}{\sqrt{x}} dx$

4.  $\int \frac{1}{\sqrt{1-x^2}} dx$

5.  $\int \frac{1}{\sqrt{1-x}} dx$