

Find the following antiderivatives and *verify your answers!*

1.  $\int \sin(\pi x + 1) dx$

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

2.  $\int \sqrt{2x+1} dx$

6.  $\int \frac{x^5}{1+x^6} dx$

3.  $\int \frac{\cos(\sqrt{x})}{\sqrt{x}} dx$

7.  $\int \frac{x^2}{1+x^6} dx$

4.  $\int_1^3 \frac{(\ln(x))^5}{x} dx$

8.  $\int \cos(x) e^{\sin(x)} dx$

## Recap for Today

- Integration by Substitution attempts to reverse the Chain Rule
- You will usually want to substitute  $u$  to be the inner-most function in the integrand.