Calculus I - Antiderivatives Rules

1. $\int a \cdot f(x)\,dx = a\int f(x)\,dx$
2. $\int [f(x)+g(x)]\,dx = \int f(x)\,dx + \int g(x)\,dx$
3. $\int x^p\,dx = \dfrac{x^{p+1}}{p+1} + C, \quad \text{for } p \neq -1$
4. $\int e^x\,dx = e^x + C$
5. $\int \dfrac{1}{x}\,dx = \ln|x| + C$
6. $\int b^x\,dx = \dfrac{b^x}{\ln b} + C$
7. $\int \cos x\;dx = \sin x + C$
8. $\int \sin x\;dx = -\cos x + C$
9. $\int \sec^2 x\;dx = \tan x + C$
10. $\int \csc^2 x\;dx = -\cot x + C$
11. $\int \sec x \tan x\;dx = \sec x + C$
12. $\int \csc x \cot x\;dx = -\csc x + C$
13. $\int \dfrac{1}{\sqrt{1-x^2}}\,dx = \sin^{-1} x + C$
14. $\int \dfrac{1}{1+x^2}\,dx = \tan^{-1} x + C$
15. $\int \dfrac{1}{|x|\sqrt{x^2-1}}\,dx = \sec^{-1} x + C$