MATH 134 Calculus 2 with FUNdamentals, Spring 2014

Some Important Indefinite Integrals (Section 5.3)

1. $\int 0 \, dx = c$ where c is an arbitrary constant
2. $\int k \, dx = kx + c$
3. **Power Rule**: $\int x^n \, dx = \dfrac{x^{n+1}}{n+1} + c, \quad$ where $n \neq -1$
4. $\int \dfrac{1}{x} \, dx = \ln|x| + c$
5. $\int e^x \, dx = e^x + c$
6. $\int a^x \, dx = \dfrac{a^x}{\ln a} + c \quad$ for any real number $a > 0$
7. $\int \sin x \, dx = -\cos x + c$
8. $\int \cos x \, dx = \sin x + c$
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. $\int \dfrac{1}{1+x^2} \, dx = \tan^{-1} x + c$
14. $\int \dfrac{1}{\sqrt{1-x^2}} \, dx = \sin^{-1} x + c$
15. $\int -\dfrac{1}{\sqrt{1-x^2}} \, dx = \cos^{-1} x + c$

Note: To check a given formula, the derivative of the function on the right-hand side should be equal to the function being integrated (the integrand).