דף נוסחאות

פונקציות היפרבוליות

1. $\cosh x = \frac{e^x + e^{-x}}{2}$; $\sinh x = \frac{e^x - e^{-x}}{2}$

2. $\tanh x = \frac{\sinh x}{\cosh x}$; $\coth x = \frac{\cosh x}{\sinh x}$

אינטגרלים מיידים

1. $\int 0\,dx = C$

2. $\int 1\,dx = x + C$

3. $\int x^{\alpha}\,dx = \frac{x^{\alpha+1}}{\alpha+1} + C \qquad \alpha \neq -1$

4. $\int x^{-1}\,dx = \ln|x| + C$

5. $\int e^x\,dx = e^x + C$

6. $\int a^x\,dx = \frac{a^x}{\ln a} + C \qquad 0 < a \neq 1$

7. $\int \sin x\,dx = -\cos x + C$

8. $\int \cos x\,dx = \sin x + C$

9. $\int \frac{1}{\cos^2 x}\,dx = \tan x + C$

10. $\int \frac{1}{\sin^2 x}\,dx = -\cot x + C$

11. $\int \frac{1}{x^2 + a^2}\,dx = \frac{1}{a}\arctan(x/a) + C$

12. $\int \frac{1}{\sqrt{a^2 - x^2}}\,dx = \arcsin(x/a) + C$

13. $\int \cosh x\,dx = \sinh x + C$

14. $\int \sinh x\,dx = \cosh x + C$

15. $\int \frac{1}{\sin x}\,dx = \ln\left|\tan(x/2)\right| + C$

16. $\int \frac{1}{\cosh^2 x}\,dx = \tanh x + C$

17. $\int \frac{1}{\cos x}\,dx = \ln\left|\tan x + (1/\cos x)\right| + C$