สูตรการหาอนุพันธ์

1. $\frac{d}{dx}c = 0$ เมื่อ c เป็นค่าคงที่
2. $\frac{d}{dx}x = 1$
3. $\frac{d}{dx}(u+v+...) = \frac{d}{dx}(u)+\frac{d}{dx}(v)+...$
4. $\frac{d(cu)}{dx} = c\frac{du}{dx}$ เมื่อ c เป็นค่าคงที่
5. $\frac{d(uv)}{dx} = u\frac{d}{dx}(v)+v\frac{d}{dx}(u)$
6. $\frac{d}{dx}\left(\frac{u}{v}\right) = \frac{1}{v^2}\left(v\frac{du}{dx}-u\frac{dv}{dx}\right)$
7. $\frac{d}{dx}(x^n) = nx^{n-1}$
8. $\frac{d}{dx}(u^n) = nu^{n-1}\frac{du}{dx}$
9. $\frac{d}{dx}(a^u) = a^u \ln a\frac{du}{dx}$; $a>0$, $a\neq 1$
10. $\frac{d}{dx}(e^u) = e^u\frac{du}{dx}$
11. $\frac{d}{dx}(\log_a u) = \frac{1}{u\ln a}\frac{du}{dx} = \frac{1}{u}\log_a e\frac{du}{dx}$
12. $\frac{d}{dx}(\ln u) = \frac{1}{u}\frac{du}{dx}$
13. $\frac{d}{dx}(\sin u) = \cos u\frac{du}{dx}$
14. $\frac{d}{dx}(\cos u) = -\sin u\frac{du}{dx}$
15. $\frac{d}{dx}(\tan u) = \sec^2 u\frac{du}{dx}$
16. $\frac{d}{dx}(\cot u) = -\operatorname{cosec}^2 u\frac{du}{dx}$
17. $\frac{d}{dx}(\sec u) = \sec u\cdot\tan u\frac{du}{dx}$
18. $\frac{d}{dx}(\operatorname{cosec} u) = -\operatorname{cosec} u\cdot\cot u\frac{du}{dx}$
19. $\frac{d}{dx}(\arcsin u) = \frac{1}{\sqrt{1-u^2}}\frac{du}{dx}$
20. $\frac{d}{dx}(\arccos u) = -\frac{1}{\sqrt{1-u^2}}\frac{du}{dx}$
21. $\frac{d}{dx}(\arctan u) = \frac{1}{1+u^2}\frac{du}{dx}$
22. $\frac{d}{dx}(\operatorname{arccot} u) = -\frac{1}{1+u^2}\frac{du}{dx}$
23. $\frac{d}{dx}(\operatorname{arcsec} u) = \frac{1}{|u|\sqrt{u^2-1}}\frac{du}{dx}$
24. $\frac{d}{dx}(\operatorname{arccosec} u) = -\frac{1}{|u|\sqrt{u^2-1}}\frac{du}{dx}$

สูตรการหาปริพันธ์

1. $\int(u+v)dx = \int u\,dx+\int v\,dx$
2. $\int au\,dx = a\int u\,dx$
3. $\int u^n du = \frac{u^{n+1}}{n+1}+c$ เมื่อ $n\neq -1$
4. $\int\frac{1}{u}du = \ln|u|+c$
5. $\int a^u du = \frac{a^u}{\ln a}+c$
6. $\int e^u du = e^u+c$
7. $\int\sin u\,du = -\cos u+c$
8. $\int\cos u\,du = \sin u+c$
9. $\int\tan u\,du = \ln|\sec u|+c$
10. $\int\cot u\,du = \ln|\sin u|+c$
11. $\int\sec u\,du = \ln|\sec u+\tan u|+c$
12. $\int\operatorname{cosec} u\,du = \ln|\operatorname{cosec} u-\cot u|+c$
13. $\int\sec^2 u\,du = \tan u+c$
14. $\int\operatorname{cosec}^2 u\,du = -\cot u+c$
15. $\int\sec u\tan u\,du = \sec u+c$
16. $\int\operatorname{cosec} u\cot u\,du = -\operatorname{cosec} u+c$
17. $\int\frac{du}{\sqrt{a^2-u^2}} = \arcsin\frac{u}{a}+c$
18. $\int\frac{du}{\sqrt{a^2+u^2}} = \ln\left|u+\sqrt{a^2+u^2}\right|+c$
19. $\int\frac{du}{\sqrt{u^2-a^2}} = \ln\left|u+\sqrt{u^2-a^2}\right|+c$
20. $\int\frac{du}{u\sqrt{u^2-a^2}} = \frac{1}{a}\operatorname{arcsec}\frac{u}{a}+c$
21. $\int\frac{du}{a^2+u^2} = \frac{1}{a}\arctan\frac{u}{a}+c$
22. $\int\frac{du}{a^2-u^2} = \frac{1}{2a}\ln\left|\frac{a+u}{a-u}\right|+c$
23. $\int\frac{du}{u^2-a^2} = \frac{1}{2a}\ln\left|\frac{u-a}{u+a}\right|+c$
24. $\int\sqrt{a^2-u^2}\,du = \frac{1}{2}u\sqrt{a^2-u^2}+\frac{1}{2}a^2\arcsin\frac{u}{a}+c$
25. $\int\sqrt{a^2+u^2}\,du = \frac{1}{2}u\sqrt{a^2+u^2}+\frac{1}{2}a^2\ln\left|u+\sqrt{a^2+u^2}\right|+c$
26. $\int\sqrt{u^2-a^2}\,du = \frac{1}{2}u\sqrt{u^2-a^2}-\frac{1}{2}a^2\ln\left|u+\sqrt{u^2-a^2}\right|+c$

$$\tan\theta = \frac{\sin\theta}{\cos\theta}\ ,\quad \cot\theta = \frac{1}{\tan\theta}\ ,\quad \sec\theta = \frac{1}{\cos\theta}\ ,\quad \operatorname{cosec}\theta = \frac{1}{\sin\theta}$$