

สูตรอนุพันธ์

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| 1. $\frac{dc}{dx} = 0$ | $c' = 0$ |
| 2. $\frac{d}{dx}(x^n) = nx^{n-1}$ | $(x^n)' = nx^{n-1}$ |
| 3. $\frac{d}{dx}(f(x) + g(x)) = \frac{d}{dx}f(x) + \frac{d}{dx}g(x)$ | $(f + g)' = f' + g'$ |
| 4. $\frac{d}{dx}(cf(x) + kg(x)) = c\frac{d}{dx}f(x) + k\frac{d}{dx}g(x)$ | $(cf + kg)' = cf' + kg'$ |
| 5. $\frac{d}{dx}(f(x)g(x)) = (\frac{d}{dx}f(x))(g(x)) + (\frac{d}{dx}g(x))(f(x))$ | $(fg)' = f'g + g'f$ |
| 6. $\frac{d}{dx} \frac{f(x)}{g(x)} = \frac{g(x)\frac{d}{dx}f(x) - f(x)\frac{d}{dx}g(x)}{g(x)^2}$ | $(\frac{f}{g})' = \frac{gf' - fg'}{g^2}$ |
| 7. $\frac{d}{dx}(u^n) = nu^{n-1}\frac{d}{dx}u(x)$ | $(u^n)' = nu^{n-1}u'$ |
| 8. $\frac{d}{dx}(f \circ g)(x) = \frac{d}{dg(x)}f(g(x))\frac{d}{dx}g(x)$ | $(f \circ g)'(x) = f'(g(x))g'(x)$ |
| 9. $\frac{d}{dx} \ln x = \frac{1}{x}$ เมื่อ $x > 0$ | 10. $\frac{d}{dx} e^x = e^x$ |
| 11. $\frac{d}{dx} a^x = a^x \ln a$ | 12. $\frac{d}{dx} \log_a x = \frac{1}{x \ln a}$ |
| 13. $\frac{d}{dx} \sin x = \cos x$ | 14. $\frac{d}{dx} \cos x = -\sin x$ |
| 15. $\frac{d}{dx} \tan x = \sec^2 x$ | 16. $\frac{d}{dx} \cot x = -\operatorname{cosec}^2 x$ |
| 17. $\frac{d}{dx} \sec x = \sec x \tan x$ | 18. $\frac{d}{dx} \operatorname{cosec} x = -\operatorname{cosec} x \cot x$ |
| 19. $\frac{d}{dx} \arcsin x = \frac{1}{\sqrt{1-x^2}}$ | 20. $\frac{d}{dx} \arccos x = -\frac{1}{\sqrt{1-x^2}}$ |
| 21. $\frac{1}{\sqrt{1-x^2}} \arctan x = \frac{1}{1+x^2}$ | 22. $\frac{1}{\sqrt{1-x^2}} \operatorname{arccot} x = -\frac{1}{1+x^2}$ |
| 23. $\frac{1}{1+x^2} \operatorname{arcsec} x = \frac{1}{ x \sqrt{x^2-1}}$ | 24. $\frac{1}{1+x^2} \operatorname{arccosec} x = -\frac{1}{ x \sqrt{x^2-1}}$ |

สูตรอินทิเกรต

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| 1. $\int k dx = kx + C$ | 2. $\int x^n dx = \frac{x^{n+1}}{n+1} + C \quad n \neq -1$ |
| 3. $\int \frac{1}{x} dx = \ln x + C$ | 4. $\int e^x dx = e^x + C$ |
| 5. $\int a^x dx = \frac{a^x}{\ln a} + C$ | 6. $\int \sin x dx = -\cos x + C$ |
| 7. $\int \cos x dx = \sin x + C$ | 8. $\int \sec^2 x + \tan x + C$ |
| 9. $\int \operatorname{cosec}^2 x dx = -\cot x + c$ | 10. $\int \sec x \tan x dx = \sec x + C$ |
| 11. $\int \operatorname{cosec} x \cot x dx = -\operatorname{cosec} x + C$ | 12. $\int \tan x dx = \ln \sec x + C$ |
| 13. $\int \cot x dx = \ln \sin x + C$ | 14. $\int \sec x dx = \ln \sec x + \tan x + C$ |
| 15. $\int \operatorname{cosec} x dx = \ln \operatorname{cosec} x - \cot x + C$ | 16. $\int \frac{1}{\sqrt{1-x^2}} dx = \arcsin x + C$ |
| 17. $\int \frac{1}{x^2+1} dx = \arctan x + c$ | 18. $\int \frac{1}{ x \sqrt{x^2-1}} dx = \operatorname{arcsec} x + C$ |

เอกลักษณ์ตรีโกณมิติ

$$\sin^2 x + \cos^2 x = 1$$

$$1 + \tan^2 x = \sec^2 x$$

$$1 + \cot^2 x = \operatorname{cosec}^2 x$$

$$\tan 2A = \frac{2 \tan A}{1 - \tan^2 A}$$

$$\sin 2A = \frac{2 \tan A}{1 + \tan^2 A}$$

$$\cos 2A = \frac{1 - \tan^2 A}{1 + \tan^2 A}$$

$$\cos^2 A = \frac{1 + \cos 2A}{2}$$

$$\sin^2 A = \frac{1 - \cos 2A}{2}$$

$$\cos 2A = \cos^2 A - \sin^2 A = 1 - 2 \sin^2 A = 2 \cos^2 A - 1 \quad \sin 2A = 2 \sin A \cos A$$

$$\sin(-A) = -\sin A$$

$$\cos(-A) = \cos A$$

$$\tan(-A) = -\tan A$$

$$\sin(\pi - A) = \sin A$$

$$\cos(\pi - A) = -\cos A$$

$$\tan(\pi - A) = -\tan A$$

$$2 \sin A \cos B = \sin(A + B) + \sin(A - B)$$

$$2 \cos A \sin B = \sin(A + B) - \sin(A - B)$$

$$2 \cos A \cos B = \cos(A + B) + \cos(A - B)$$

$$2 \sin A \sin B = \cos(A - B) - \cos(A + B)$$