

Differentiate the following with respect to x :

- $3x^4 + 2x^3 + 5$
- $x^{\frac{2}{3}} - \cot x$
- $2 \ln x$
- $\frac{x}{m} + \frac{m}{x} + 2\sqrt{x} + \frac{2}{\sqrt{x}}$
- $\cos(2x - 5)$
- $\sin 2x + \cos\left(\frac{1}{2}x\right)$
- $x - \ln x$
- $\log_2 x$
- $\log_2 x^2$
- e^{2x}
- e^{ex}
- e^{e^x}
- $(\sin x + \cos x)^3$
- $e^x \sec x$
- $\ln(\sin x)$
- $\ln(\ln x)$
- $\lg(x^2 + x + 1)$
- $(\sin 3x^2)^3$
- $\frac{\sin x + 2}{\sec x}$
- x^e
- $e^{-x} \sin 2x$
- $\frac{\tan x}{x}$
- $x^5 \cot 2x$
- $\sin \sqrt{x}$
- 2^x
- $2^{\sin x}$
- $\frac{\ln x}{x}$
- $\frac{x}{\ln x}$
- $\frac{2x}{\pi}$
- $x^2 - \ln x$
- e^{x^2}
- $\ln(x^2 + 1)$
- $\tan x \sec x$
- $2x \cos 2x$
- $\ln x^2 + e^{x^2}$
- $\sqrt{x + \sin x}$
- $(\log_5 x + \operatorname{cosec} x)^2$
- $\ln x^2 \tan 5x$
- $(1 + \ln x)^2$
- $e^{\sin 5x}$
- $\operatorname{cosec} x^2$
- $\cot^2 x$
- $\frac{\tan x}{(x + 1)^2}$
- $\frac{\cot x}{x - 1}$
- $\sqrt[4]{x^2 + 1}$
- $\tan(5e^{x^2})$
- $\frac{1 - 2 \sin x}{\cos 3x}$
- $\frac{1}{x^2} - \frac{1}{\sin^2 x}$
- $\sqrt{x + \sqrt{x} + \sqrt{x}}$
- x^x