

$$\begin{aligned}
 & \text{① } y = \sin x, \quad y' = \cos x \\
 & \text{② } y = \cos x, \quad y' = -\sin x \\
 & \text{③ } y = \tan x, \quad y' = \sec^2 x \\
 & \text{④ } y = \cot x, \quad y' = -\csc^2 x \\
 & \text{⑤ } y = \sec x, \quad y' = \sec x \tan x \\
 & \text{⑥ } y = \csc x, \quad y' = -\csc x \cot x \\
 & \text{⑦ } y = e^x, \quad y' = e^x \\
 & \text{⑧ } y = \ln x, \quad y' = \frac{1}{x} \\
 & \text{⑨ } y = a^x, \quad y' = a^x \ln a \\
 & \text{⑩ } y = \log_a x, \quad y' = \frac{1}{x \ln a} \\
 & \text{⑪ } y = x^a, \quad y' = a x^{a-1} \\
 & \text{⑫ } y = \frac{u}{v}, \quad y' = \frac{u'v - uv'}{v^2} \\
 & \text{⑬ } y = uv, \quad y' = u'v + uv' \\
 & \text{⑭ } y = f(g(x)), \quad y' = f'(g(x)) \cdot g'(x) \\
 & \text{⑮ } y = \sin^{-1} x, \quad y' = \frac{1}{\sqrt{1-x^2}} \\
 & \text{⑯ } y = \cos^{-1} x, \quad y' = \frac{-1}{\sqrt{1-x^2}} \\
 & \text{⑰ } y = \tan^{-1} x, \quad y' = \frac{1}{1+x^2} \\
 & \text{⑱ } y = \cot^{-1} x, \quad y' = \frac{-1}{1+x^2} \\
 & \text{⑲ } y = \sec^{-1} x, \quad y' = \frac{1}{x\sqrt{x^2-1}} \\
 & \text{⑳ } y = \csc^{-1} x, \quad y' = \frac{-1}{x\sqrt{x^2-1}}
 \end{aligned}$$