

$y = \frac{1}{x}$	$y = \sqrt{x}$	$y = \sin x$	$y = \cos x$	$y = e^x$	$y = \ln x$
$y = -\frac{1}{x^2}$	$y' = \frac{1}{2\sqrt{x}}$	$y' = \cos x$	$y' = -\sin x$	$y' = e^x$	$y' = \frac{1}{x}$

1. $y = \sqrt{x^5 - 2x^3 + x}$ $y = \sqrt{u}$ $u = x^5 - 2x^3 + x$
 $y' = \frac{5x^4 - 6x^2 + 1}{2\sqrt{x^5 - 2x^3 + x}}$ $y' = \frac{1}{\sqrt{u}}$ $u' = 5x^4 - 6x^2 + 1$

2. $y = \frac{1}{\cos x}$ $y = \frac{1}{u}$ $u = \cos x$
 $y' = \frac{\sin x}{\cos^2 x}$ $y' = -\frac{1}{u^2}$ $u' = -\sin x$

3. $y = \ln(2e^x)$ $y = \ln u$ $u = 2e^x$
 $y' = \frac{2e^x}{2e^x} = 1$ $y' = \frac{1}{u}$ $u' = 2e^x$

4. $y = e^{\sqrt{x}}$ $y = e^u$ $u = \sqrt{x}$
 $y' = \frac{e^{\sqrt{x}}}{2\sqrt{x}}$ $y' = e^u$ $u' = \frac{1}{2\sqrt{x}}$

5. $y = \ln(3x^2 + 3)$ $y = \ln u$ $u = 3x^2 + 3$
 $y = \frac{6x}{3x^2 + 3} = \frac{2x}{x^2 + 1}$ $y' = \frac{1}{u}$ $u' = 6x$

6. $y = (2x + 5)^{10}$ $y = u^{10}$ $u = 2x + 5$
 $y' = 20(2x + 5)^9$ $y' = 10u^9$ $u' = 2$