

**Calculus Worksheet: Differentiation of Functions (2)**

Find the first derivative of the functions

1.  $y = (4x - 4)^4$

2.  $y = \cos(\sin(x) + 3x)$

3.  $y = e^{x^2+4x}$

4.  $y = \sin^{-1}(\sqrt{x} - 1), 0 \leq x \leq 4$

5.  $y = \frac{2}{\sqrt{(1-x^3)^5}}$

6.  $y = \ln(2x^2 + 4)^2$

7.  $y = \ln^2(2x^2 + 4)$

8.  $y = 3u^{\frac{1}{2}} - 2u^{\frac{1}{3}}$  with  $u = 2x^3 + x$

9.  $y = \sqrt[3]{(2x^2 + x - 1)^2 - 2}$

