

(1) [3] Differentiate $y = t^3 - \frac{1}{\sqrt[3]{t^4}}$

(2) [3] Determine an equation of the tangent line to $y = x + \sqrt{x}$ at the point (1, 2).

(3) [3] Differentiate $g(x) = x^3 \sin(x)$

(4) [3] Differentiate $y = \frac{x^2}{\cos(x)}$

(5) [3] Differentiate $f(\theta) = \frac{\sec(\theta)}{1 + \sec(\theta)}$