# Calculus

## Derivatives 2

**Problem 1.-** Find the derivative of each function

a) $f(x) = 2(2x^3 + 3x^2 + 6x)\sin x$

b) $f(\theta) = e^{3\theta}(\cot\theta - \csc\theta)$

c) $g(x) = 2^x \sec x$

d) $h(x) = \dfrac{\ln(x)}{x}$

e) $f(x) = \dfrac{(x^2 - 1)}{\sec x + 1}$

f) $g(x) = \sqrt{x^2 + 1}$

**Solution**: