

## Homework 4

1. Find the derivatives of the following functions

$$f(x) = (3x^2 - 2x + 1)^4,$$

$$s(t) = \sin(4t + 2),$$

$$g(x) = e^{-x^2+3x},$$

$$h(x) = e^{\sec x},$$

$$r(x) = x \sin 5x,$$

$$s(t) = \left( \frac{1}{1-2t} \right)^3,$$

$$F(x) = \sqrt{\frac{x^2+3}{x^2-5}},$$

$$G(x) = \ln(3x^4 + 5x).$$