1 Exercise 1: Derivatives

(a)

$$\frac{df(x)}{x} = cos(x^3)\frac{dln(\frac{1}{11}x^4)}{dx} + (-1)sin(x^3)3x^2ln(\frac{1}{11}x^4)$$
$$= cos(x^3)\frac{4}{11}x^3\frac{1}{\frac{1}{11}x^4} - 3x^2sin(x^3)ln(\frac{1}{11}x^4)$$