Product and quotient rules

3.4.1 Find the derivative of the function (you don't need to simplify your answer)

(a)
$$g(x) = \frac{3x - 1}{1 + x^2}$$
(b)
$$h(s) = (s^5 - 3s^\pi)(s^2 - 2s - 1)$$

3.4.2 Applying the product rule, find a formula for the derivative of the product of three functions. Namely, express $(f(x)g(x)h(x))'$ using $f(x)$, $f'(x)$, $g(x)$, $g'(x)$, $h(x)$, $h'(x)$.