Directions: Answer each question. Simplify. (2 pts each)

1.) Find the equation of the tangent line to the function \( f(x) = 2x^2 - 6x + 1 \) at \( x = 1 \).

\[ y = -2x - 1 \]

2.) Differentiate \( g(x) = x^2 \cos x \).

\[ 2x \cos x - x^2 \sin x \]

3.) Differentiate \( h(x) = \frac{x^2}{1-x^3} \).

\[ \frac{x^4 + 2x}{(1-x^3)^2} \]

4.) Differentiate \( k(x) = \csc x \).

\[ -\csc x \cot x \]