Find the derivative for each of the following functions. **Simplify your answers.**

1. (3 pts) \( f(x) = x(\ln x - 1) \)

2. (3 pts) \( f(x) = \frac{x^2 - 3}{x^2 + 1} \)

3. (4 pts) \( f(x) = \sin^2(3x) \)