Name: 
Recitation Instructor and time: 
OSU username (lastname.&#): 

Compute the derivative of each of the following 8 functions. You do not need to simplify. You do not need to show steps. Calculators are not allowed. No partial credit will be awarded. Be very careful with notation, signs, parentheses, etc. Please circle or box your final answer for each question.

1. \( f(x) = \ln \left( 3 \cos (4x^7 + 3) \right) \)

2. \( f(x) = \tan(5x)e^{\sec(x)} \)

3. \( f(x) = (3x + e)^{35} \)

4. \( f(x) = -ex^{10} + e^{4x} + \frac{\sec(2)}{\sqrt{x}} \)
5. \( f(x) = \left( \frac{-4x^8 - 4x}{x^3 + 4} \right) \sin(x) \)

6. \( f(x) = \sqrt{-\frac{2}{x^{11}} - 4x} \)

7. \( f(x) = \cos^2(2x) + \cot^3(x) \)

8. \( f(x) = \frac{e^{3x} \sqrt{x}}{\ln(x)} \)