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

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

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

4. $f(x) = -ex^{10} + e^{4x} + \dfrac{\sec(2)}{\sqrt[6]{x}}$

5. $f(x) = \left(\dfrac{-4x^8 - 4x}{x^3 + 4} \right) \sin(x)$

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

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

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