Instructions: You may not use notes, books or calculators on this assessment. No partial credit. **Don’t simplify answers.** Successful completion of this assessment is 8 of 10 completely correct. Good Luck!

1. Find \( f'(x) \) if \( f(x) = x^2 + \sqrt[3]{x} \)

2. Find \( \frac{dy}{dx} \) if \( y = 2 \sin x \)

3. Find \( h'(t) \) for \( h(t) = \sin t \ e^t \)

4. Find \( \frac{dz}{dw} \) if \( z = \ln(x) + \tan x \)

5. Find \( h'(t) \) for \( h(t) = \sin(x^2 + \sqrt[3]{x}) \).

6. Find the derivative with respect to \( t \) of \( g(t) = \left( t^2 + \frac{3}{\sqrt{x}} \right)^2 \)

7. Find \( \frac{dT}{dx} \) if \( T = e^x (x^2 + \sqrt[3]{x}) \)

8. Find \( r'(y) \) if \( r(y) = \ln(2y \sqrt[4]{y}) \)

9. Find the derivative with respect to \( w \) of \( f(w) = 2^w \ w^2 \)

10. Find \( \frac{dy}{dx} \) if \( y = \sqrt{x^2 + a^2} \), where \( a \) is a constant.