MAT 136 (Calculus I), Prof. Jim Swift
In-Class Worksheet: Derivative Shortcuts 3.

This is a pencil-and-paper exercise. No calculators.

1. Let $f(x) = 3x^2 - 4x + 7$. Compute $f'(x)$, $f''(x)$, $f'''(x)$, and $f^{(2024)}(x)$.

2. Compute $\frac{d}{dx}[x^2 \sin(x)]$.

3. Let $f(x) = \sec(x)$. Find $f'(x)$ using a trig identity and the quotient rule.