Section 3.3: Additional Problems

1. Find the derivative of $y = \dfrac{\tan(x) - 1}{\sec(x)}$.

2. Find an equation of the tangent line to the curve $y = 2x\sin(x)$ at the point $(\pi/2, \pi)$.

3. If $f(x) = e^x \cos(x)$, find $f'(x)$ and $f''(x)$.

4. Find the 35th derivative of $y = x\sin(x)$

5. Find the 41st derivative of $y = \sin(x)e^x$