For each function, find its derivative. Remember that you can verify your answer by graphing.

1. $e^x \sin(x)$

2. $\ln(x)(x^3 - 3)$

3. $\dfrac{x + \cos(x)}{x^2}$

4. $\tan(x)$ Hint: $\tan(x) = \dfrac{\sin(x)}{\cos(x)}$

5. $\dfrac{3\ln(x)}{e^x}$