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

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

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

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

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

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

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