Remember to show all of your work.

Problem 1. (6 points) Find the first <u>and</u> second derivatives of the following function:

$$f(x) = 2x^5e^x + 3x^4 + \pi^2$$

Problem 2. (4 points) Find the x value(s) at which the following function has a horizontal tangent line:

$$f(x) = x^3 + 10x^2 + 12x + 7$$