

YOUR NAME: \_\_\_\_\_

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Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Compute the derivative of  $f(x) = (x^{2015} + 2014x)^{2016}$ .

2. Find an equation for the tangent line to the graph of  $f(x) = \left(\frac{1-x}{2x+3}\right)^2$  at  $x = -1$ .

3. **Bonus Problem:** Compute  $f'(x)$  if  $f(x) = (x^2 + (x^3 + x^4)^5)^6$ .