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Problem1\_writeup

### Estimated Functions:

$$Y_1(x) = 52.1581x - 189.866$$

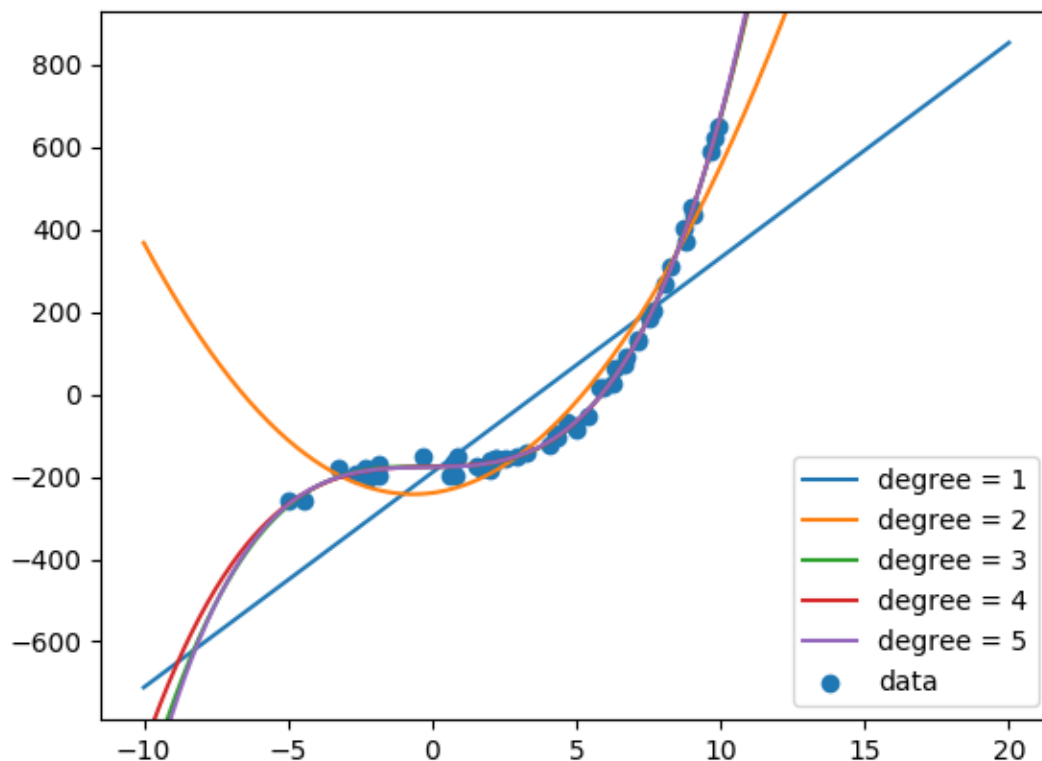
$$Y_2(x) = 7.00158x^2 + 9.30386x - 239.334$$

$$Y_3(x) = 8.20138x^3 + 0.261767x^2 - 0.010328x - 175.277$$

$$Y_4(x) = 0.005988x^4 + 0.755218x^3 + 0.234559x^2 + 1.17636x - 175.880$$

$$Y_5(x) = 0.000853x^5 - 0.00469x^4 + 0.752811x^3 + 0.526084x^2 + 0.965916x - 176.837$$

### Data Visualization:



### Discussion:

The data seems to best follow the fourth and fifth order polynomials, but the fifth order slightly more.

If a new data point were given,  $x=2$ , we predict  $Y_5(2) = -166.827$