

### Problem 1:

2)

a)  $d = 1 \rightarrow y = 21.99190792x + 92.70531403$

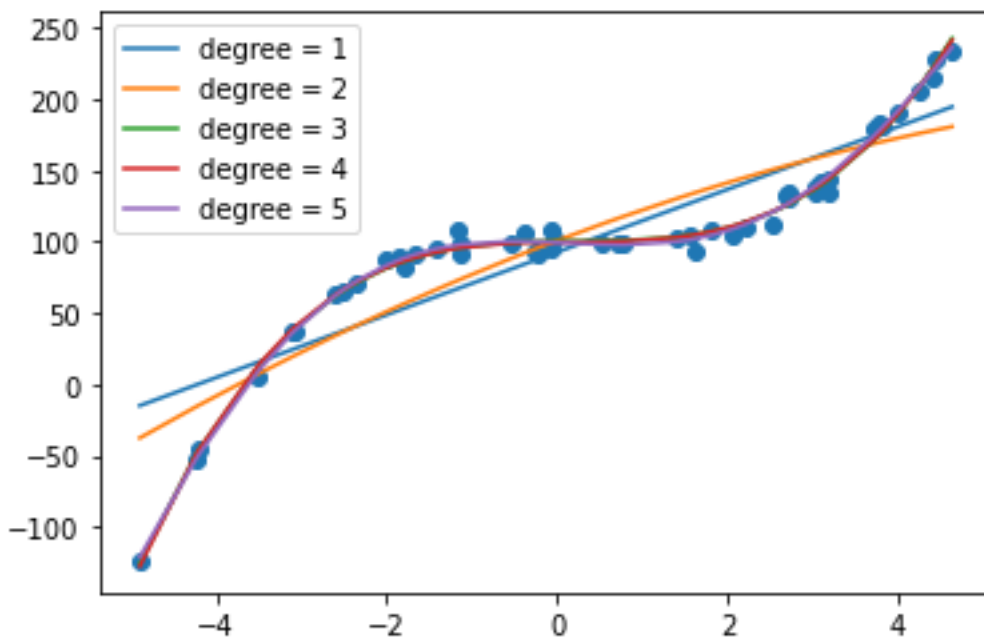
b)  $d = 2 \rightarrow y = -1.15834068x^2 + 22.60822925x + 100.79905593$

c)  $d = 3 \rightarrow y = 1.66680649x^3 - 1.19334469x^2 + 0.39581103x + 100.43721865$

d)  $d = 4 \rightarrow y = (-1.43365571e-02)x^4 + 1.66770942x^3 - 0.905694362x^2 + 0.339499592x + 9.97620446e+01$

e)  $d = 5 \rightarrow y = -(2.31737037e-02)x^5 - (1.96196620e-02)x^4 + 2.27429003x^3 - (8.64397166e-01)x^2 - 2.65996605x + 9.94138526e+01$

3)



The degree that matches with the data would be 3 degrees. Even though 4 and 5 degrees also presents itself as a good match, they are less desirable when compared to 3 degrees because it has an unnecessary number of degrees.

4) 109.79