

Recall Exercise 1.2.34, pg 23

In a wind tunnel experiment, the force on a projectile due to air resistance was measured at different velocities:

Velocity (100 ft/sec)	0	2	4	6	8	10
Force (100 lb)	0	2.9	14.8	39.6	74.3	119.0

Find an interpolating polynomial for these data and estimate the force on the projectile when the projectile is traveling at 750 ft/sec.

$$\text{Use } p(t) = a_0 + a_1t + a_2t^2 + a_3t^3 + a_4t^4 + a_5t^5.$$

What happens if you try to use a polynomial of degree less than 5?

Recall Exercise 1.2.34, pg 23

In a wind tunnel experiment, the force on a projectile due to air resistance was measured at different velocities:

Velocity (100 ft/sec)	0	2	4	6	8	10
Force (100 lb)	0	2.9	14.8	39.6	74.3	119.0

Find an interpolating polynomial for these data and estimate the force on the projectile when the projectile is traveling at 750 ft/sec.

$$\text{Use } p(t) = a_0 + a_1 t + a_2 t^2 + a_3 t^3 + a_4 t^4 + a_5 t^5.$$

What happens if you try to use a polynomial of degree less than 5?

1. Find the least-squares quartic that best fits the data.
2. Find the least-squares line that best fits the data.