1. Hartshorne II.4.1 – finite morphisms are proper.

2. Hartshorne II.2.14 parts (a) through (c).

3. E-H Exercises III-12 and III-17 on the Veronese subring.

4. E-H Exercise III-16 – closed subschemes and saturated ideals are in bijection.

5. For positive integers $d_1, \ldots, d_n$ let $\mathbb{P}(d_1, \ldots, d_n) = \text{Proj} \ k[x_1, \ldots, x_n]$ with the grading on the ring $k[x_1, \ldots, x_n]$ given by setting $\text{deg}(x_i) = d_i$. Show that $\mathbb{P}(1, 1, 3)$ is a cone over a cubic curve.