1. Eisenbud, Exercise 2.4.

2. Eisenbud, Exercise 3.17.

3. (a) Eisenbud, Exercise 3.6.
   (b) Eisenbud, Exercise 3.7.
   (c) Eisenbud, Exercise 3.8.

4. (a) Show that the radical of a primary ideal is prime.
   (b) Find an example of a power of a prime ideal that is not primary.
   (c) Let $p$ be a prime ideal of a ring $R$ and $n \in \mathbb{N}$. The $R$-ideal $p^{(n)} := R \cap p^n R_p$ is called the $n$-th symbolic power of $p$. Show that $p^{(n)}$ is primary.