Here are some remarks on what you should have noticed from the first set of problems.

1. The association E——. V(E) from subsets of a ring A to the set of prime ideals containing E
in the set X=Spec (A) is inclusion reversing. If E is contained in F, then V(E) contains V(F).

2. The above association only `remembers' radicals of ideals, in the sense that if two ideals I and J have the same radical then V(I)=V(J); in geometry this translates to the notion of being reduced.

3. At the level of basic open sets in X=Spec A, the ring associated to an open set U_f is the
ring A_f, which is the ring A localized at the multiplicative set {1,f,f^2….}. Thus the set X=Spec A is actually what is called a ringed space.