Read sections:
1. 3.4

Do the following problems:
1. 3.3: 6, 23, 33d
2. Given rings $R$ and $S$, $P \subseteq S$ a prime ideal, and $\phi : R \to S$ a ring homomorphism, show that
   \[ \phi^{-1}(P) = \{ r \in R \mid \phi(r) \in P \} \]
   is a prime ideal of $R$.
3. 3.4: 7, 13, 14, 19, 27

The grader will carefully consider 3.3.33d and 3.4.27.