

Section X.1 Homework

ORAL:

1. Show that 5 is irreducible in  $\mathbb{Z}[\sqrt{-6}]$ .
2. Factor 11 in  $\mathbb{Z}[\sqrt{-7}]$ . Make sure to prove that your factors are irreducible.

WRITTEN:

3. Show that  $3 + \sqrt{-6}$  is irreducible in  $\mathbb{Z}[\sqrt{-6}]$ .
4. Factor  $1 + 5\sqrt{-3}$  in  $\mathbb{Z}[\sqrt{-3}]$ . Make sure to prove that your factors are irreducible.
5. Factor 15 in two ways in  $\mathbb{Z}[\sqrt{-11}]$ .