

## M2P4 Rings and Fields Test 1.

1 February 2007

1. Find (a) all invertible elements (b) all zero divisors in the ring  $\mathbb{Z}/64$ . (Justify your answer.)
2. Is 19 an irreducible element of  $\mathbb{Z}[\sqrt{-5}]$ ? (If you think it is irreducible you need to give a proof, and if you think it is reducible, write 19 as a product of non-units.)
3. Give an example of an integral domain which is not a unique factorization domain. (Justify your answer.)