

**Problem 1** Problem Set 1: P5

For a prime  $p$  and a positive integer  $e$ , prove that  $\mathbb{Z}_{p^e}^*$  is cyclic.

**Solution:**

□

**Problem 2** Problem Set 1: P6

For a prime  $p$  and a positive integer  $e$ , prove that  $\mathbb{Z}_{p^e}^*$  is cyclic.

**Solution:**

□

**Problem 3** Problem Set 1: P7

For a prime  $p$  and a positive integer  $e$ , prove that  $\mathbb{Z}_{p^e}^*$  is cyclic.

**Solution:**

□

**Problem 4** Problem Set 1: P13

For a prime  $p$  and a positive integer  $e$ , prove that  $\mathbb{Z}_{p^e}^*$  is cyclic.

**Solution:**

□

**Problem 5** Problem Set 1: P14

For a prime  $p$  and a positive integer  $e$ , prove that  $\mathbb{Z}_{p^e}^*$  is cyclic.

**Solution:**

□