

## PRACTICE – VISUAL GROUP THEORY

1. Draw a Cayley graph for  $D_4$ , the group of symmetries of the square.
2. Draw a Cayley graph for each of the abelian groups below of order 4.
  - a.  $\mathbb{Z}_4$
  - b.  $\mathbb{Z}_2 \oplus \mathbb{Z}_2$
3. Draw cycle graphs for each of the abelian groups below of order 4.
  - a.  $\mathbb{Z}_4$
  - b.  $\mathbb{Z}_2 \oplus \mathbb{Z}_2$
4. Draw cycle graphs for each of the abelian groups below of order 8.
  - a.  $\mathbb{Z}_8$
  - b.  $\mathbb{Z}_2 \oplus \mathbb{Z}_4$
  - c.  $\mathbb{Z}_2 \oplus \mathbb{Z}_2 \oplus \mathbb{Z}_2$