

## Lesson 13

### INTRODUCTION TO THE STABILIZER SUBGROUP – ANSWERS

Let  $X = \{1, 2, 3, 4, 5, 6\}$  and let  $G = C_2 \times C_4 = \{(), (3, 4, 5, 6), (3, 5)(4, 6), (3, 6, 5, 4), (1, 2), (1, 2)(3, 4, 5, 6), (1, 2)(3, 5)(4, 6), (1, 2)(3, 6, 5, 4)\}$ .

1. Find  $\text{Stabilizer}(G, 1)$ .

$$\text{Stabilizer}(G, 1) = \{(), (3, 4, 5, 6), (3, 5)(4, 6), (3, 6, 5, 4)\}$$

2. Find  $\text{Stabilizer}(G, 3)$ .

$$\text{Stabilizer}(G, 3) = \{(), (1, 2)\}$$

3. Find  $\text{Stabilizer}(G, [1, 3], \text{OnTuples})$ .

$$\text{Stabilizer}(G, [1, 3], \text{OnTuples}) = \{()\}$$