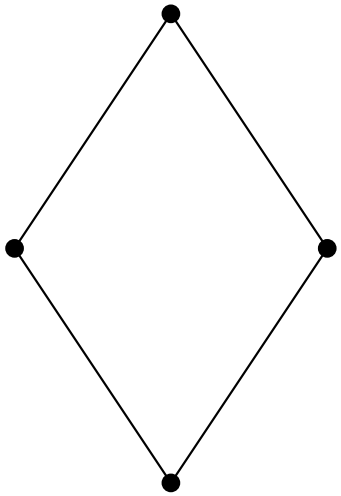
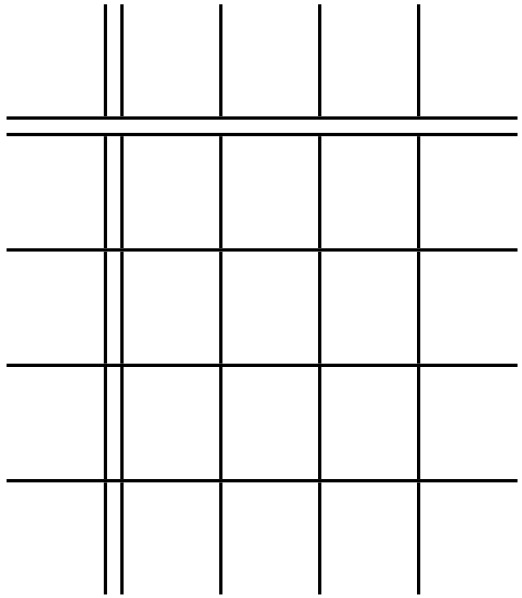
Exercise 1

Consider the figure below. Find and give names to all its symmetries, and record their compositions in the table.





Exercise 2

Complete the following table of addition of integers modulo 4.

$+_4$	0	1	2	3
0				
1				
2				
3		0		

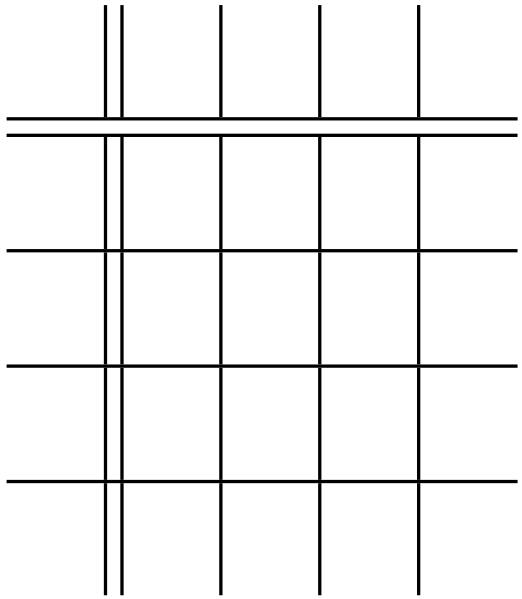
Exercise 3

Consider the mathematical expression below.

$$a + b + c \times d$$

For every choice of a, b, c and d, it assumes a value. For example:

$$(-1, 3, 2, 4) \mapsto -1 + 3 + 2 \times 4 = 10,$$
$$(-1, 4, 2, 3) \mapsto -1 + 4 + 2 \times 3 = 9.$$



Find and give names to all rearrangements of the variables a, b, c and d that leave the value of the expression unchanged for *every* choice, and record their compositions in the table.
Note: By the above, swapping b and d is no such rearrangement.

Exercise 4

Consider the image below. Find and give names to all its symmetries, and record their compositions in the table.