

Name: _____



Transformations

Translation, Rotation, Reflection



Background: UAE Smart City Transformations

In the United Arab **Emirates**, cities like **Dubai** and **Abu Dhabi** are designed with beautiful geometric patterns and modern structures. Architects and engineers use **mathematics** to plan buildings, roads, and designs.



Many designs in the UAE—such as **mosques**, towers, and traditional patterns—use **transformations** like:

- **Translation** (sliding shapes)
- **Rotation** (turning shapes)
- **Reflection** (flipping shapes)
- These transformations help create:
 - Symmetrical designs in **Islamic art**
 - Repeated patterns in buildings
 - Efficient layouts in **smart cities**

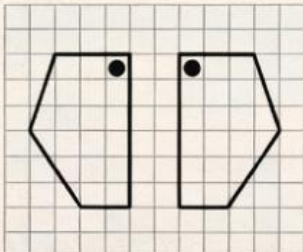


Your Role: You are a **young UAE architect**! Your job is to study how shapes move and transform so you can design buildings and patterns like those seen across the UAE.

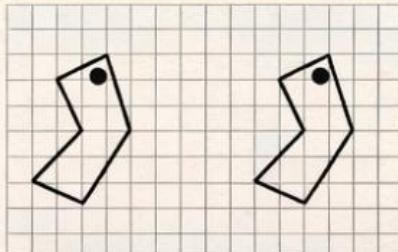
Look at each figure and decide: ➡ Was it moved by **translation**, or **reflection**?

Transformations Tell how each figure was moved. Write *translation*, *rotation*, *reflection*.

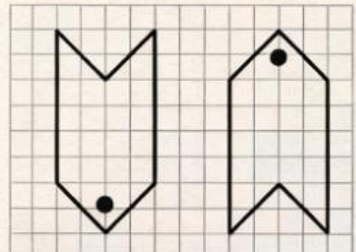
1.



2.



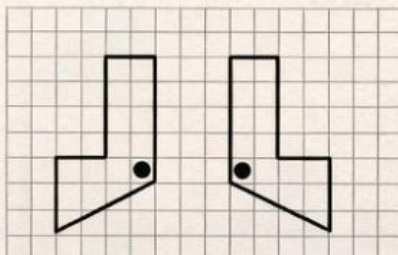
3.



4.



5.



6.

