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 **transformnations** like:

- **Translation** (sliding shapes)
- **Rotation** (turning shapes)
- **Reflection** (filping shapes)

- These transformations help create:
  - Symmetrical designs in **Islamic art**
  - Repeated patterns in buildings
  - Efficient layouts in **smart cities**

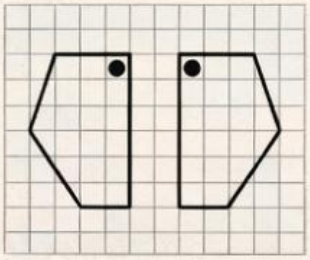
Your Role: You are a **young UAE architect!** Your job is to study how shapes move and transform so you can design buildings and patterns like *those* seen across the UAE.

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

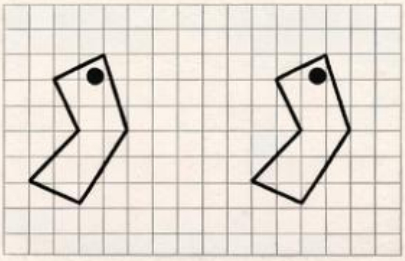
Transformations

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

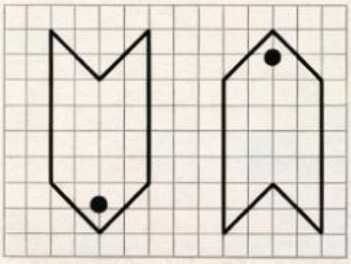
1.



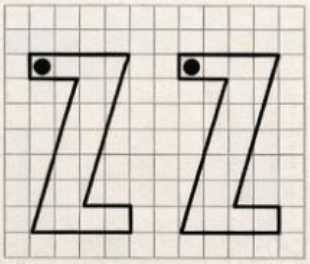
2.



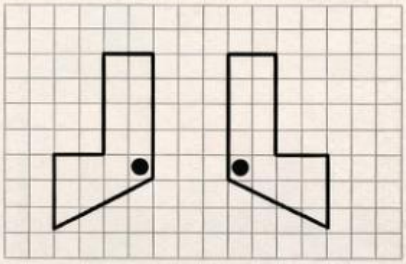
3.



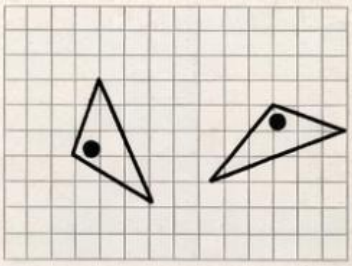
4.



5.



6.



LIVEWORKSHEETS