

# Transformations

Name:

Date:

**INQUIRY**

**Korean Dancheong (temple art) uses reflection, rotation, and translation to create beautiful patterns.**

Discuss with your partner. Write your initial ideas below:

## Key Vocabulary

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Term	Definition
<b>Translation</b>	Slide — every point moves same distance/direction.
<b>Reflection</b>	Flip — mirror image across a line.
<b>Rotation</b>	Turn — around a centre point by an angle.

## Part A — Identifying

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1. Describe the single transformation: (a)  $A(1,2) \rightarrow A'(4,5)$  (b) shape flipped over y-axis (c) shape turned 90 degrees clockwise about origin. [3 marks]

## Part B — Performing

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2. Reflect triangle with vertices  $(1,1)$ ,  $(3,1)$ ,  $(2,4)$  in the y-axis. List the new coordinates. [2 marks]

3. Translate rectangle with vertices  $(2,3)$ ,  $(5,3)$ ,  $(5,6)$ ,  $(2,6)$  by vector  $(-3,2)$ . List new coordinates. [2 marks]

### Part C — Cultural Pattern

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4. Korean Dancheong patterns use symmetry. Describe the transformations you would need to create a repeating border pattern from a single motif. [3 marks]