

3.2. Translations

Remember

A firefighter slides down a pole.



A flag slides up a pole.



A child slides down a playground slide.



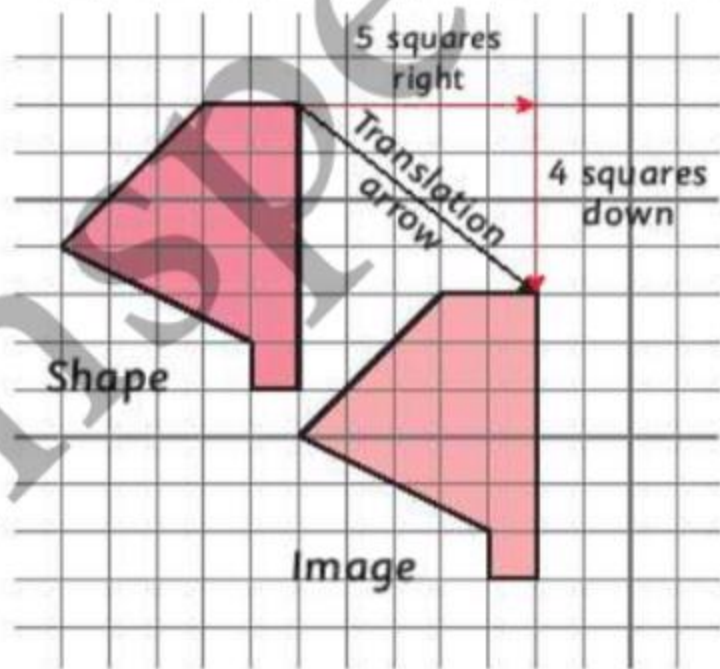
Which other ways do people or objects slide?

When a shape moves along a straight line, without turning, it is translated from one position to another.

The movement is a translation or a slide.

The translation below is:

5 squares right and 4 squares down.



We say how many squares right or left before we say how many up or down.



Primary Mathematics

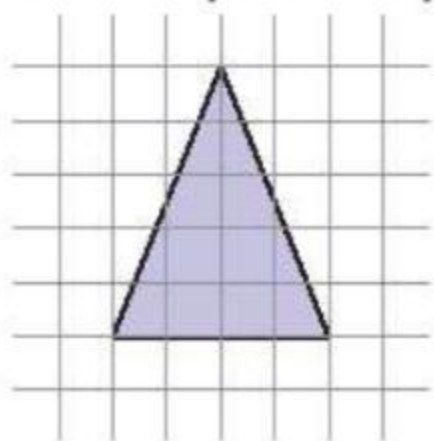
Copy each shape on grid paper. Use tracing paper.

Translate the shape using the given translation.

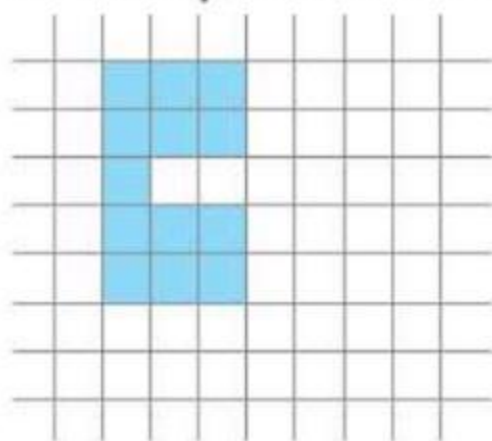
Draw the image and a translation arrow.

Describe the position and orientation of the image.

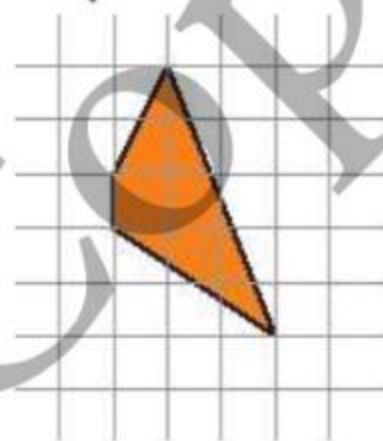
a) 7 squares left
and 3 squares up



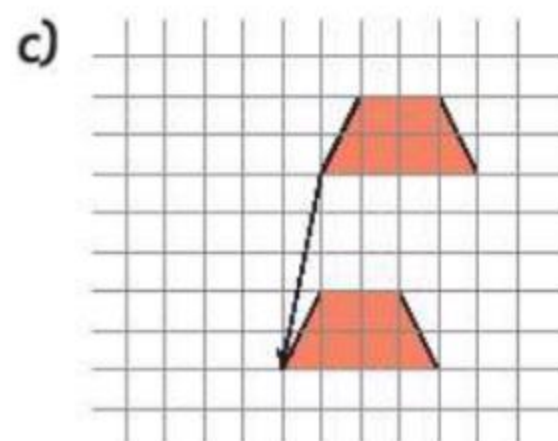
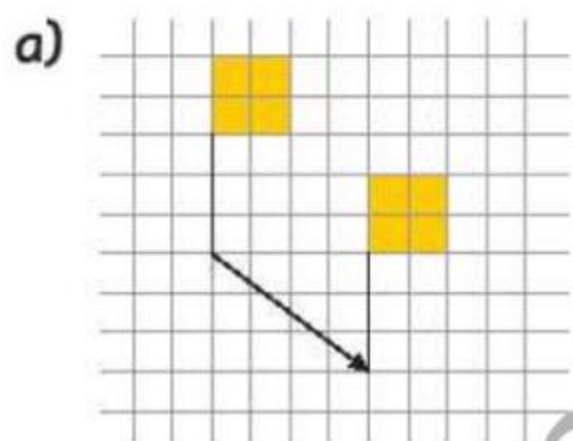
b) 5 squares right
and 4 squares down



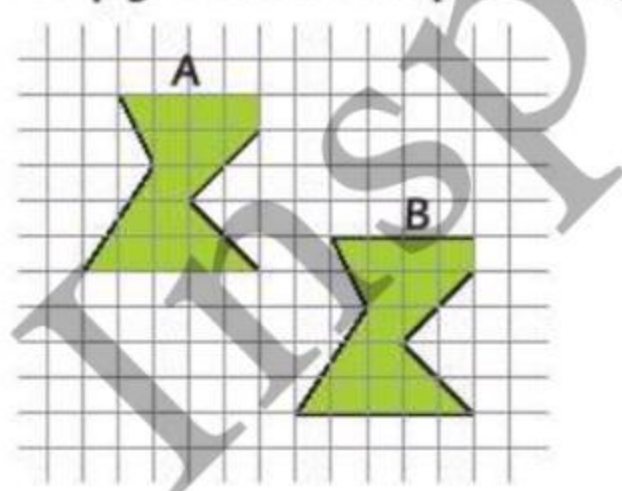
c) 3 squares left and
6 squares down



Write the translation that moved each shape to its image.



Copy these shapes on grid paper.



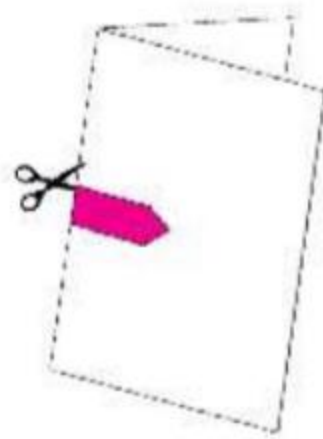
a) Describe which translation moves shape A to shape B.

b) Describe which translation moves shape B to shape A.

* 3.3. Reflecting shapes

Let's investigate

This sheet of paper has been folded once.



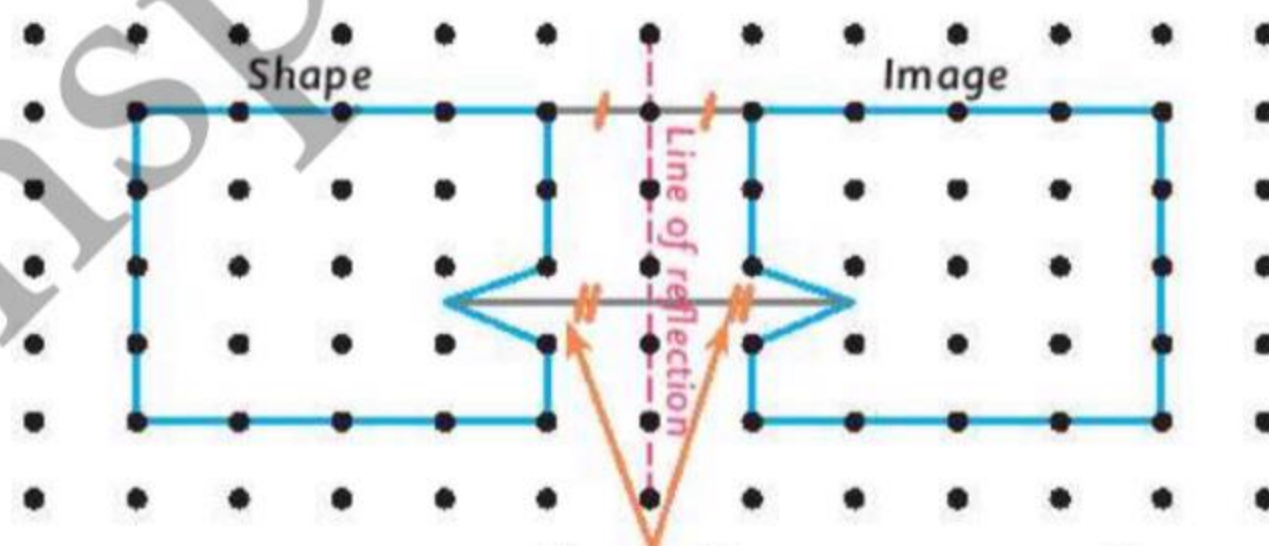
The shape is cut out as shown.

Describe the final shape you would get if you opened it out.

How many lines of symmetry will it have?

When a shape is reflected in mirror, we see a reflection image.

- A point and its image are the same distance from the line of reflection.
- A shape and its reflection face opposite directions.
- A reflection is sometimes called a flip.



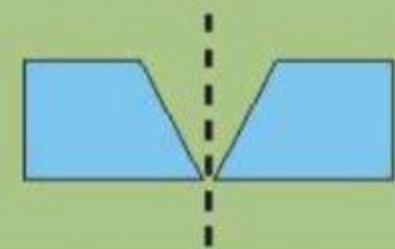
These distances are equal.

Look and learn

◆ **Translation:** moving an object or image in a straight line without rotating it.
For example:



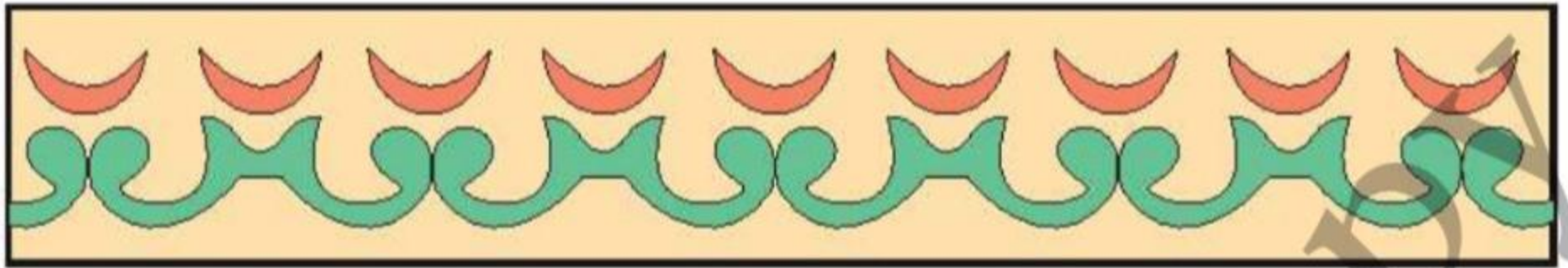
◆ **Reflection:** making a mirror image by flipping an object in a mirror line without rotating it.
For example:



Primary Mathematics

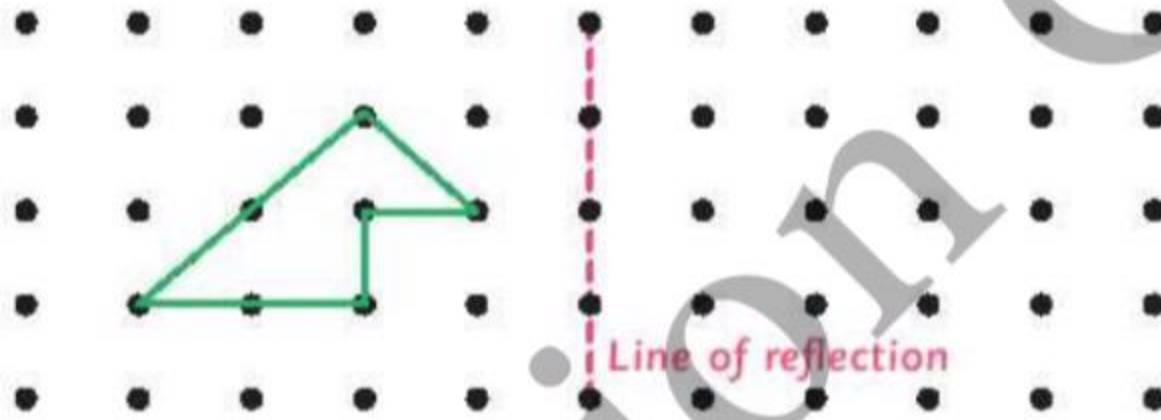
Many patterns and designs show a shape and its reflection image. Identify a shape and its reflection image in this design.

Where are the lines of reflection?



Draw each reflection images.

a)



b)

