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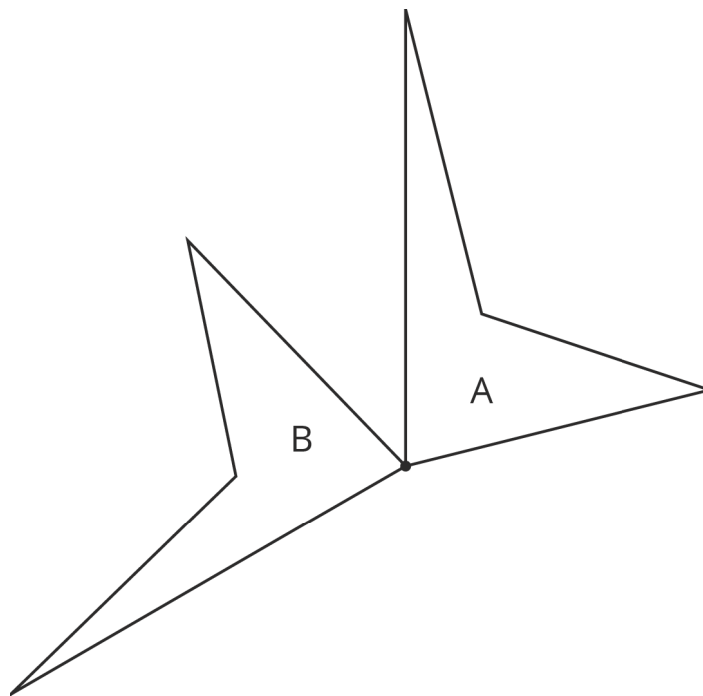
PERIOD _____

Unit 1, Lesson 2: Naming the Moves

Let's be more precise about describing moves of figures in the plane.

2.1: A Pair of Quadrilaterals

Quadrilateral A can be rotated into the position of Quadrilateral B.



Estimate the angle of rotation.

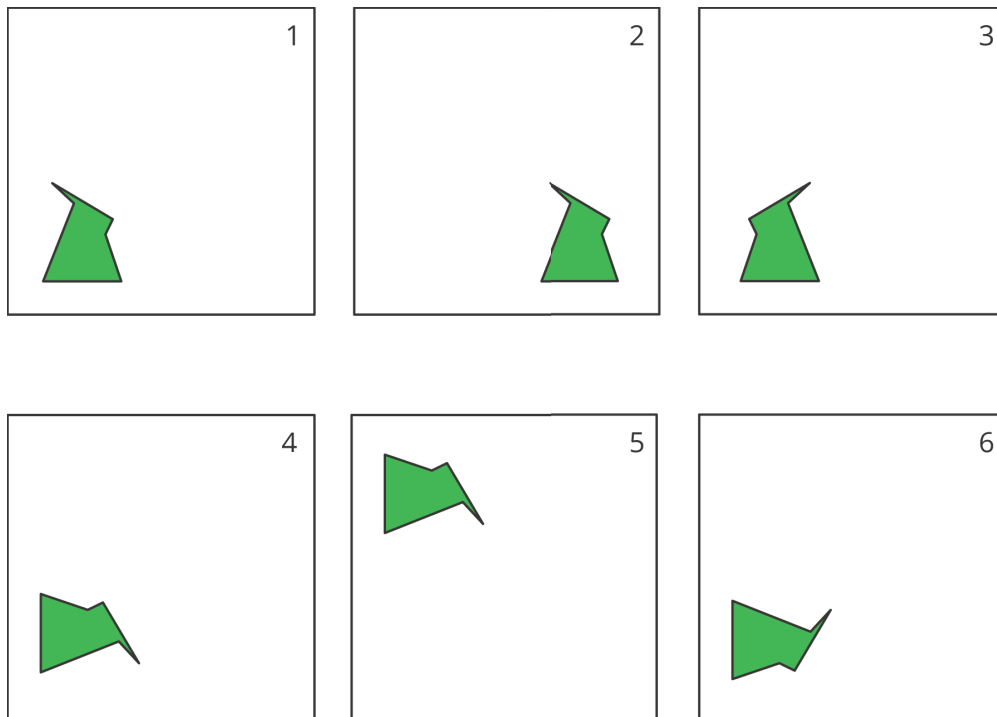
NAME _____

DATE _____

PERIOD _____

2.2: How Did You Make That Move?

Here is another set of dance moves.



1. Describe each move or say if it is a new move.

- Frame 1 to Frame 2.
- Frame 2 to Frame 3.
- Frame 3 to Frame 4.
- Frame 4 to Frame 5.
- Frame 5 to Frame 6.

NAME

DATE

PERIOD

2. How would you describe the new move?

2.3: Move Card Sort

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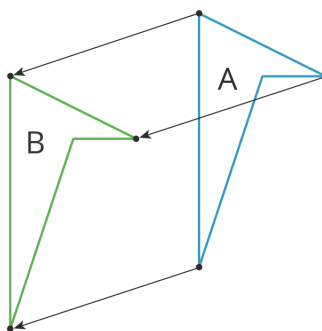
Your teacher will give you a set of cards. Sort the cards into categories according to the type of move they show. Be prepared to describe each category and why it is different from the others.



Lesson 2 Summary

Here are the moves we have learned about so far:

- A **translation** slides a figure without turning it. Every point in the figure goes the same distance in the same direction. For example, Figure A was translated down and to the left, as shown by the arrows. Figure B is a translation of Figure A.

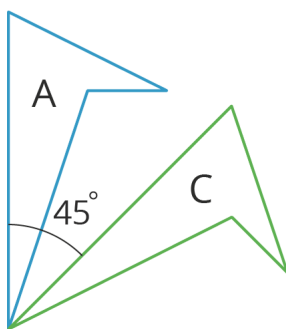


- A **rotation** turns a figure about a point, called the center of the rotation. Every point on the figure goes in a circle around the center and makes the same angle. The rotation can be **clockwise**, going in the same direction as the hands of a clock, or **counterclockwise**, going in the other direction. For example, Figure A was rotated 45° clockwise around its bottom vertex. Figure C is a rotation of Figure A.

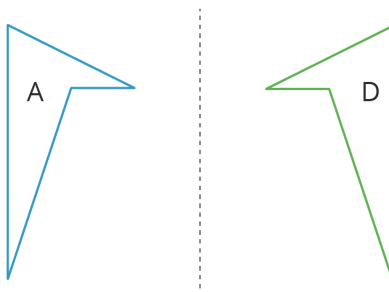
NAME _____

DATE _____

PERIOD _____



- A **reflection** places points on the opposite side of a reflection line. The mirror image is a backwards copy of the original figure. The reflection line shows where the mirror should stand. For example, Figure A was reflected across the dotted line. Figure D is a reflection of Figure A.



We use the word **image** to describe the new figure created by moving the original figure. If one point on the original figure moves to another point on the new figure, we call them **corresponding points**.

Lesson 2 Glossary Terms

- image
- corresponding
- clockwise
- counterclockwise
- reflection
- rotation

NAME

DATE

PERIOD

- translation

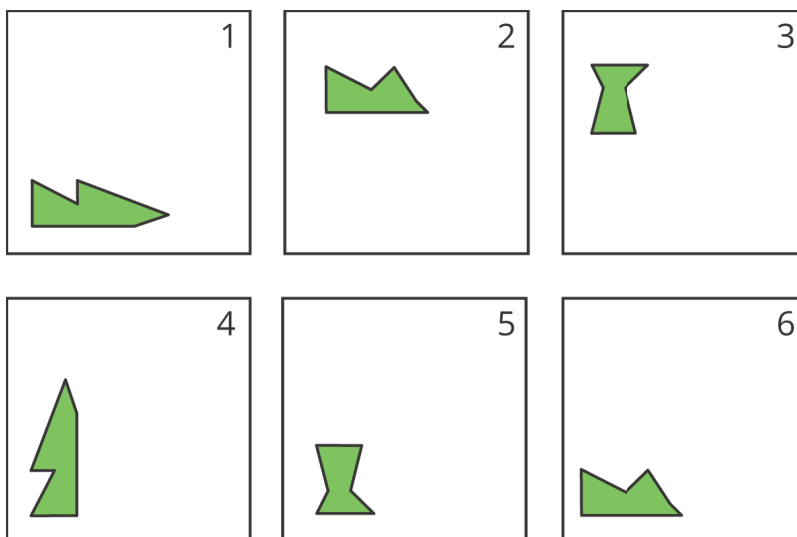
NAME _____

DATE _____

PERIOD _____

Unit 1, Lesson 2: Naming the Moves

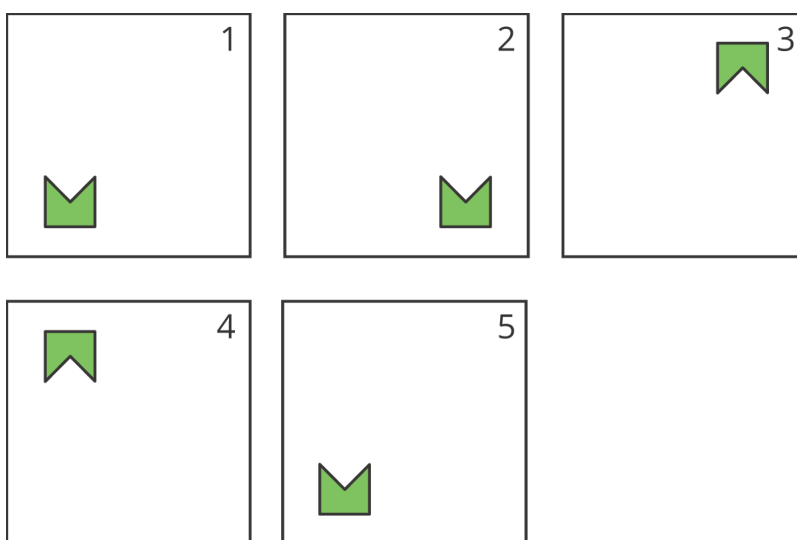
1. Each of the six cards shows a shape.



a. Which pair of cards shows a shape and its image after a rotation?

b. Which pair of cards shows a shape and its image after a reflection?

2. The five frames show a shape's different positions.



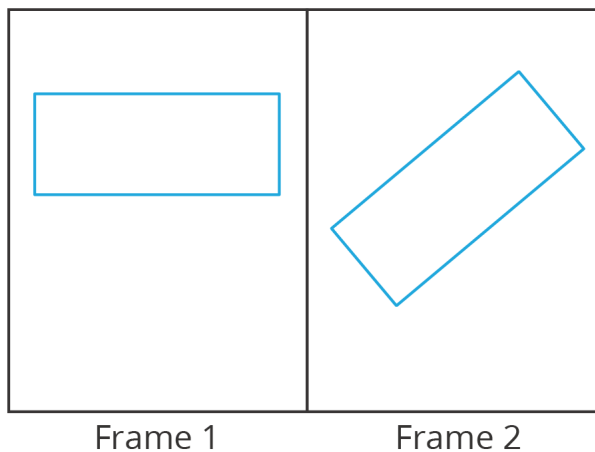
Describe how the shape moves to get from its position in each frame to the next.

3. The rectangle seen in Frame 1 is rotated to a new position, seen in Frame 2.

NAME _____

DATE _____

PERIOD _____



Select **all** the ways the rectangle could have been rotated to get from Frame 1 to Frame 2.

- A. 40 degrees clockwise
- B. 40 degrees counterclockwise
- C. 90 degrees clockwise
- D. 90 degrees counterclockwise
- E. 140 degrees clockwise
- F. 140 degrees counterclockwise

(from Unit 1, Lesson 1)