

INDEPENDENT VARIABLE

IDV WORKSHEETS

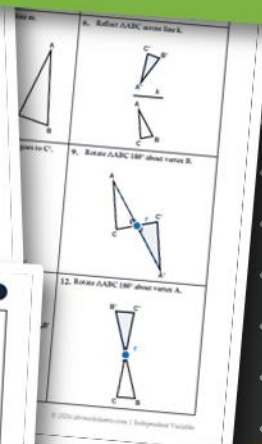
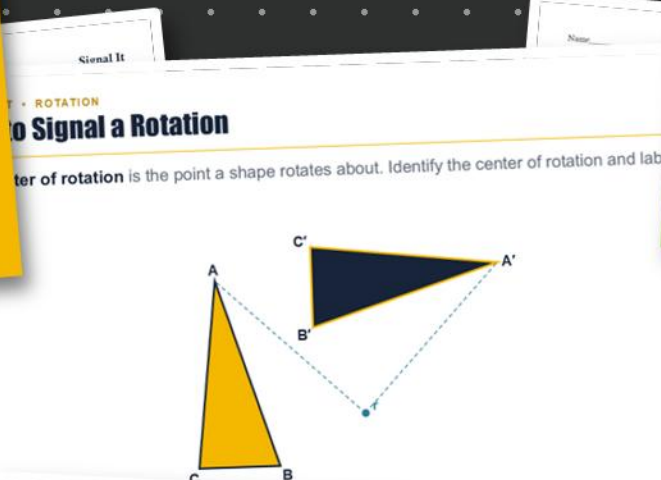
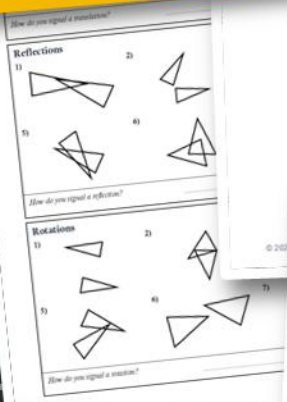


INTRO TO RIGID TRANSFORMATIONS

NAME IT | SIGNAL IT | PERFORM IT

ANIMATED
POWERPOINT:
DOES THE WORK
FOR YOU!

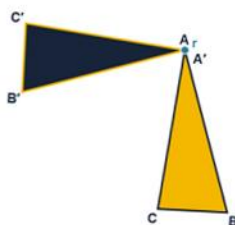
FULL ANSWER
KEYS
INCLUDED



9 EXAMPLE
PROBLEMS
& PRACTICE
SHEETS

FOLLOW ALONG • FOLLOW-ALONG: PERFORM IT, BOX 4

4. Move: Rotate $\triangle ABC$ 90° clockwise about vertex A.



SIGNAL IT,
LEVELED
PRACTICE +
FIND THE
MISTAKE

MORE PRACTICE. LESS PREP. BETTER OUTCOMES.

Inside the Animated Lesson

INDEPENDENT VARIABLE
GRADE 8 • GEOMETRY

INTRO TO RIGID TRANSFORMATIONS
 TRANSLATIONS | REFLECTIONS | ROTATIONS

Animated PowerPoint lesson
 Name it • Signal it • Perform it
 9 worked problems • full answer keys
 MORE PRACTICE, LESS PREP, BETTER OUTCOMES.
idworksheets.com

THE BIG THREE
Three Ways to Move a Figure

TRANSLATION
 A slide

 A translation has a distance and a direction. It moves every point the given distance in the given direction.

REFLECTION
 A flip

 A reflection takes every point to a point directly opposite it on the other side of a line, the same distance away.

ROTATION
 A turn

 A rotation has a center, an angle and a direction. It turns every point around the center.

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IN UNISON • MOVE 11 OF 13
What Rigid Transformation Just Happened?

ROTATION

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SIGNAL IT • REFLECTION
How to Signal a Reflection

The line of reflection is **exactly in the middle** of the pre-image and the image. Draw the line of reflection and label it l .

Check: each dashed segment crosses l at a right angle, and l cuts it exactly in half.

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SIGNAL IT • CHECK YOUR PAGE
Rotations: Find the Center of Rotation

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PERFORM IT
How to Perform a Transformation

- Read it.**
What kind of move? Translation, reflection or rotation?
- Find the given.**
The point it goes to (C'), the line (h), or the center and the direction (90° clockwise about A).
- Move it.**
Slide, flip or turn every vertex. Tracing paper makes it easy: trace, move the paper, press through.
- Label it.**
Label the image A' , B' , C' . A point that does not move keeps its place: $A = A'$.

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FOLLOW ALONG • FOLLOW-ALONG: PERFORM IT, BOX 4

4. Move: Rotate $\triangle ABC$ 90° clockwise about vertex A.

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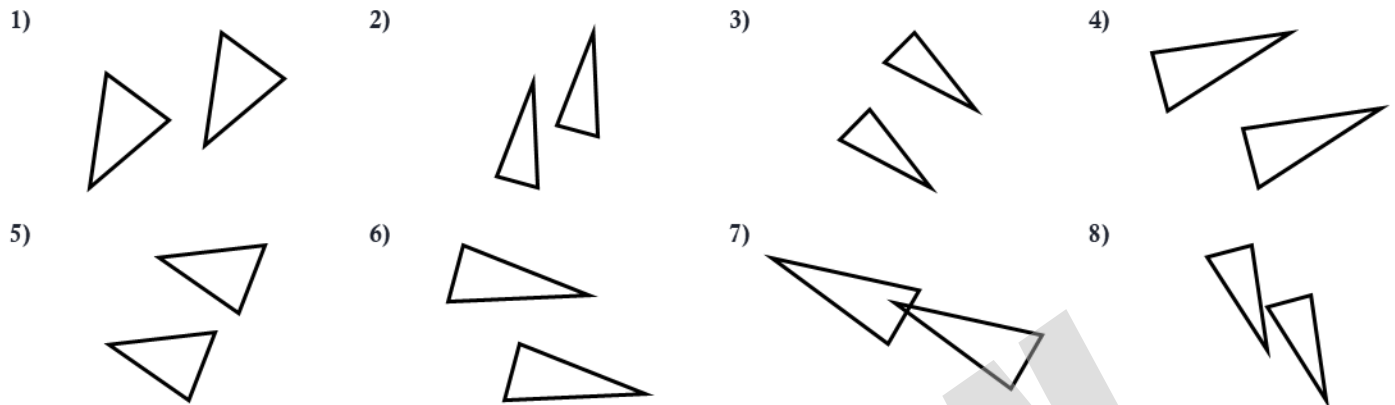
KEY IDEA
Rigid Means Same Size, Same Shape

Every move today kept the figure congruent to its pre-image. Only the position and the way it faces can change.

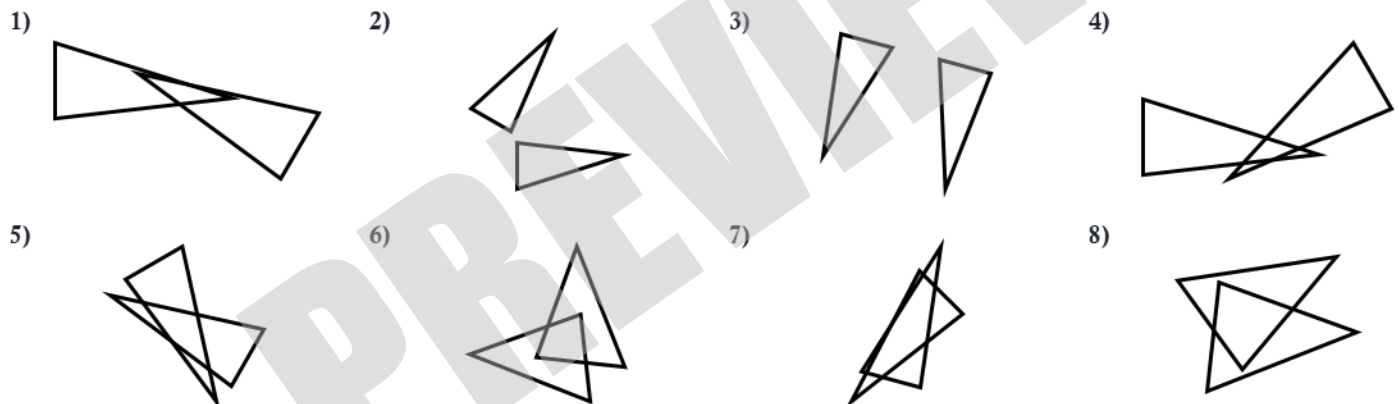
	TRANSLATION	REFLECTION	ROTATION
Motion	slide	flip	turn
Signal	a ray	line of reflection l	center of rotation r
Faces...	the same way	the opposite way (mirror)	a turned way
You need	distance + direction	the line	center + angle + direction

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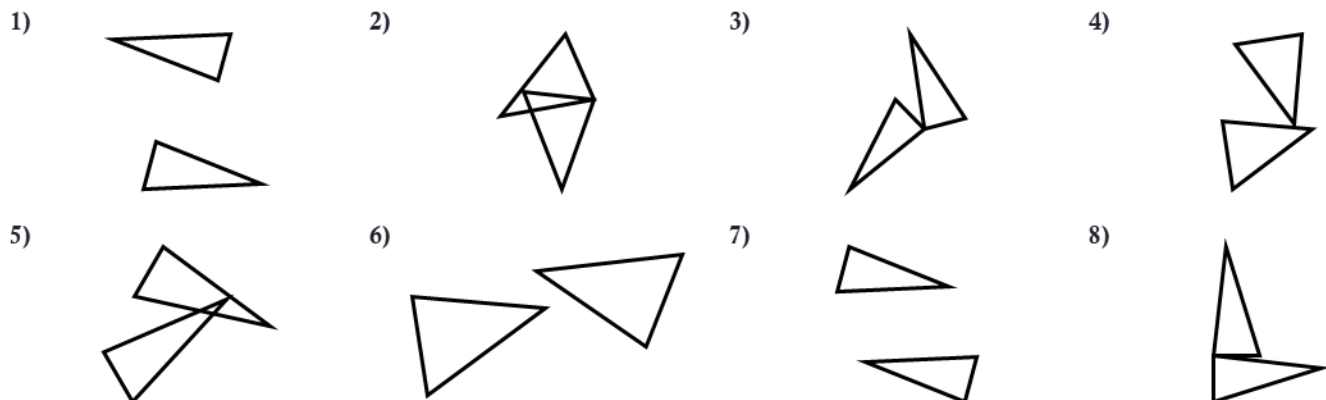
Directions: Draw the signal on each pair: a ray for a translation, the line of reflection (label it l), or the center of rotation (label it r).

Translations

How do you signal a translation? _____

Reflections

How do you signal a reflection? _____

Rotations

How do you signal a rotation? _____

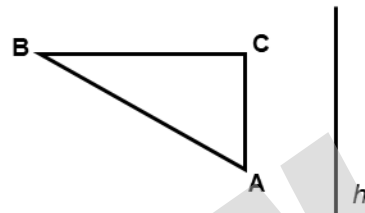
Directions: Write the move your teacher shows, then perform it. Label the image A' , B' , C' .

1. Move: _____

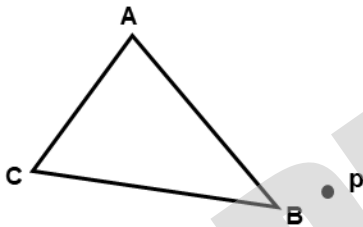


• B'

2. Move: _____



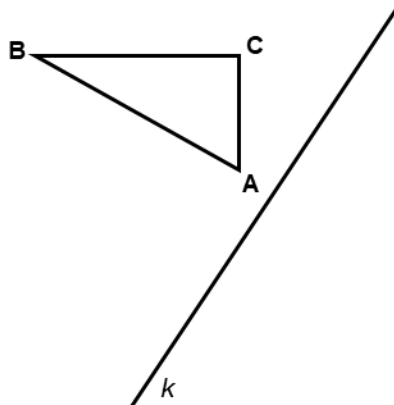
3. Move: _____



4. Move: _____



5. Move: _____



6. Move: _____

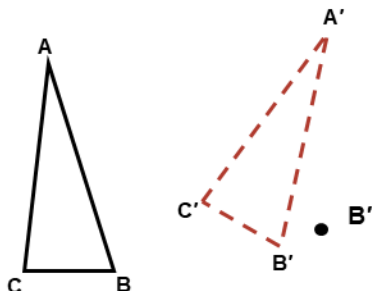


• d

CHALLENGE

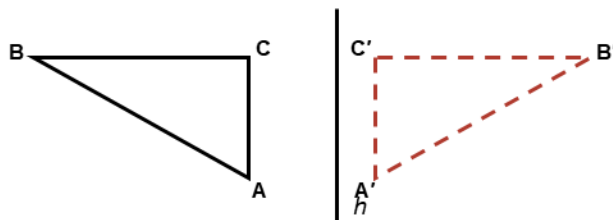
Directions: Each student's image (dashed) has ONE mistake. Explain the mistake, then draw the correct image.

1. *Maya's task:* Translate $\triangle ABC$ so that B goes to B' .



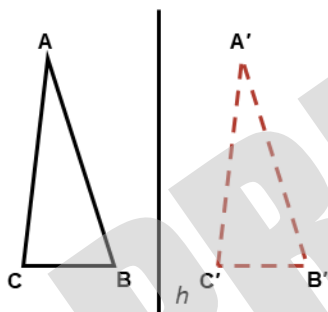
The mistake:

2. *Jordan's task:* Reflect $\triangle ABC$ across line h .



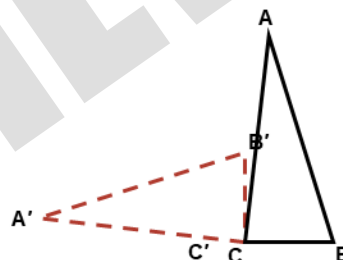
The mistake:

3. *Sam's task:* Reflect $\triangle ABC$ across line h .



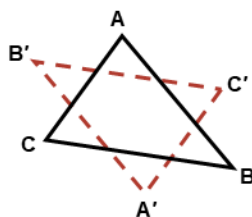
The mistake:

4. *Ava's task:* Rotate $\triangle ABC$ 90° clockwise about vertex C.



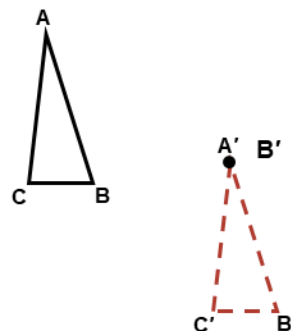
The mistake:

5. *Leo's task:* Rotate $\triangle ABC$ 180° about vertex A.



The mistake:

6. *Nia's task:* Translate $\triangle ABC$ so that B goes to B' .



The mistake:
