Slide, Flip, Turn

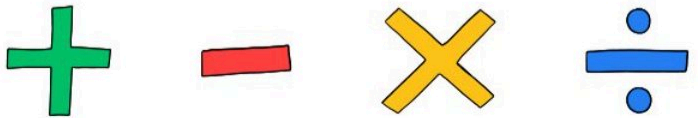
Do rotations, reflections, and translations change a shape?



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BIG IDEA

Moving a shape does not change its size or shape.



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$a^2+b^2=c^2$

Three moves to test

Translation

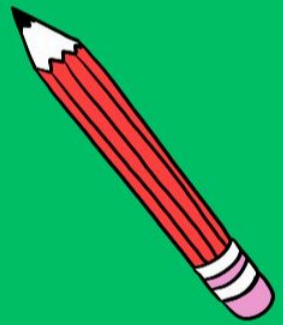
Every point slides the same distance in the same direction.

Reflection

Every point flips over a line like in a mirror.

Rotation

Every point turns around a fixed center point.



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Key words

pre-image

the original shape before a move

image

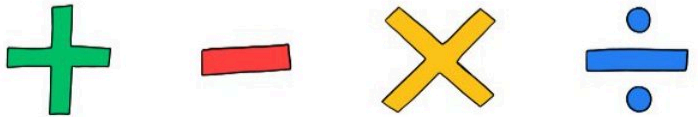
the new shape after a move

rigid

size and shape stay the same

congruent

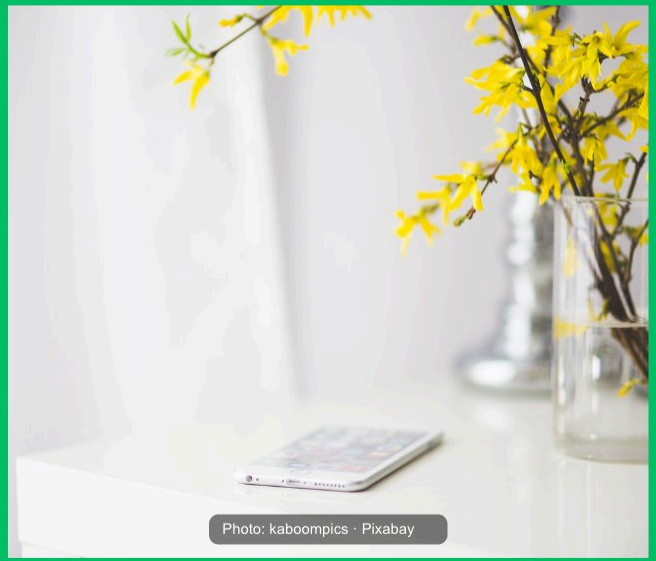
exact same size and same shape



$a^2+b^2=c^2$

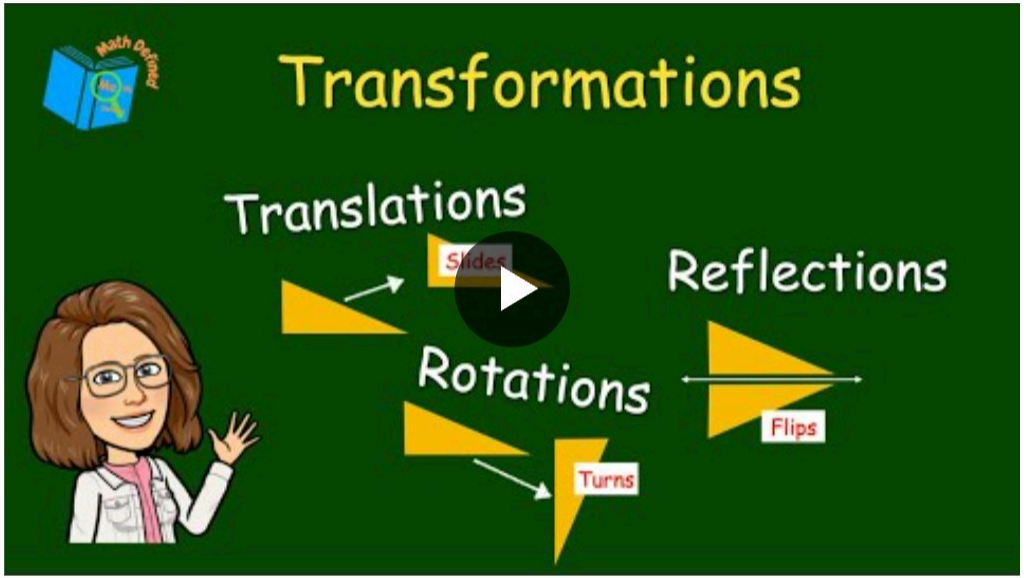
Think, pair, share

You slide your cell phone across a desk: what changes? What stays the same?



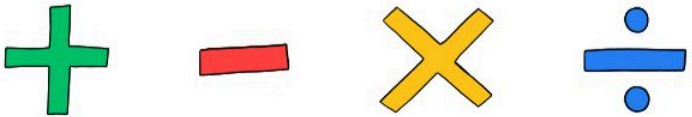
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Watch: What stays the same?

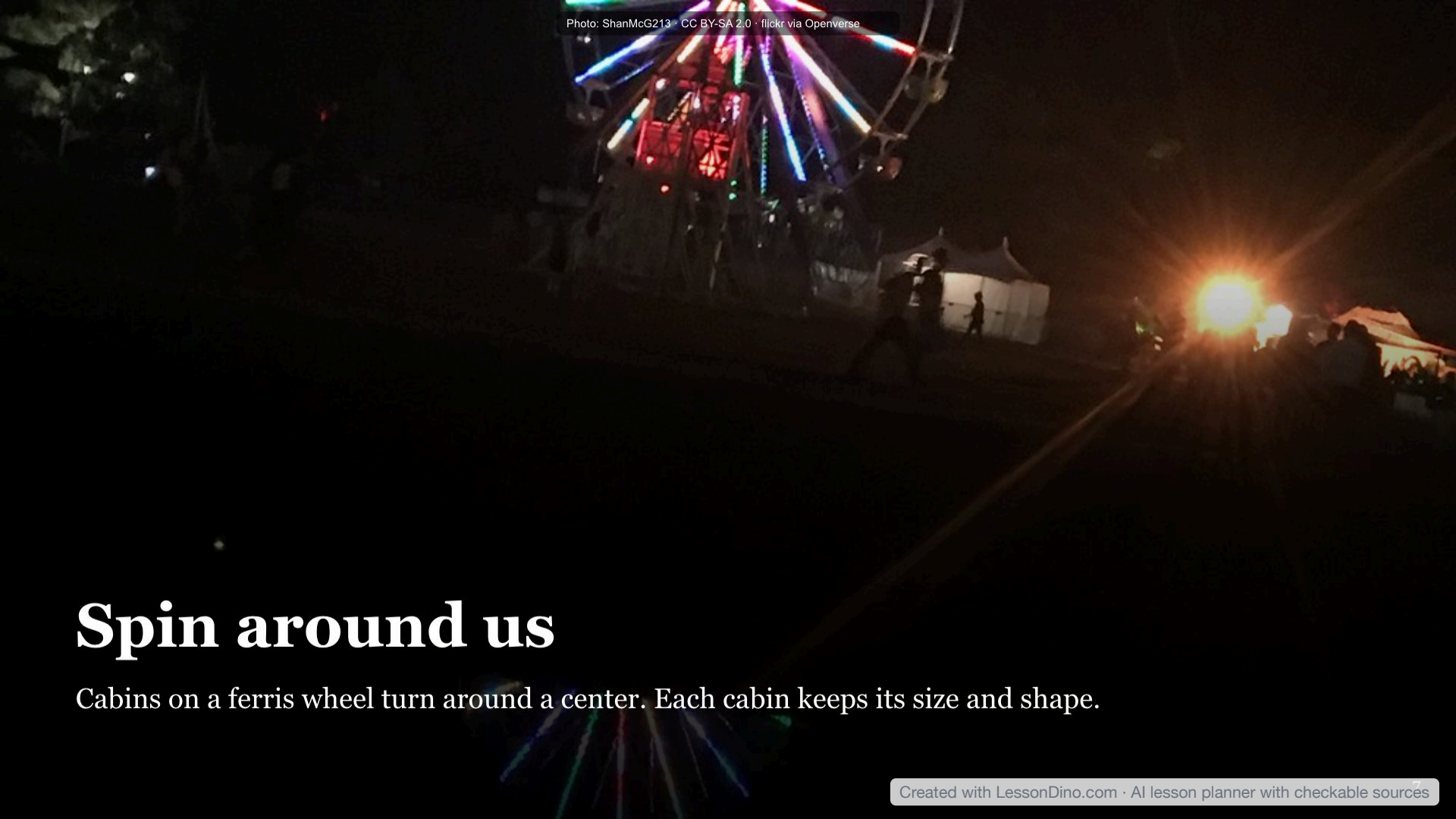


▶ 0:00 – 3:49

- Watch how side length is checked after the move
- Listen for angles and parallel lines staying same



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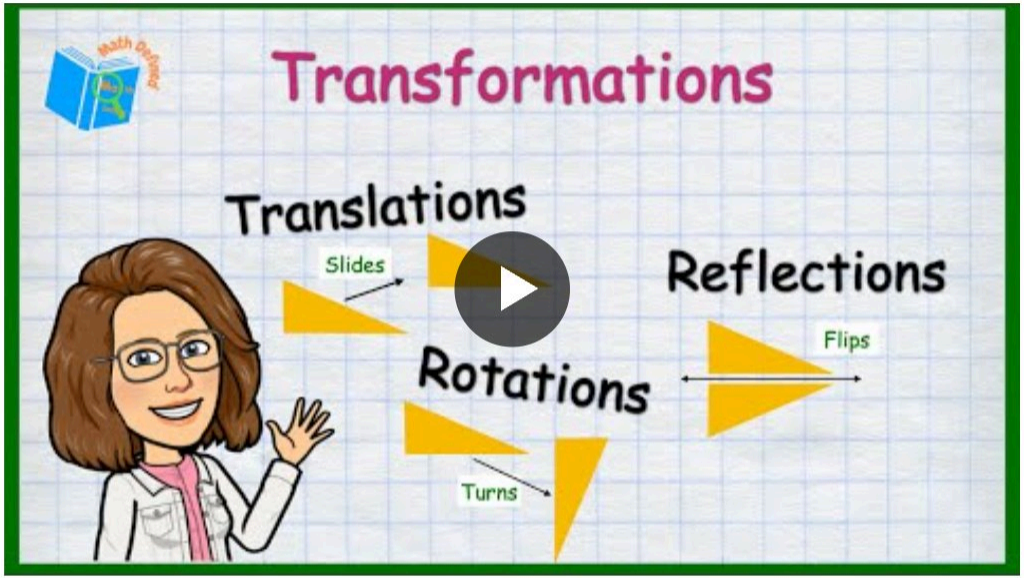


Spin around us

Cabins on a ferris wheel turn around a center. Each cabin keeps its size and shape.

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Three moves on the grid



▶ 0:00 – 4:04

- Spot the slide, the flip, and the turn
- Notice how each point moves on coordinates

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$a^2+b^2=c^2$

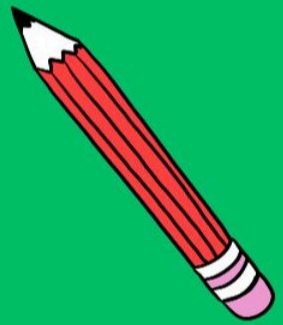
Your task

Draw a triangle, move it three ways, and measure what stayed the same.

1. Draw triangle ABC on graph paper; record sides in inches and angles.
2. Make a translation, a reflection, and a rotation to get A'B'C'.
3. Remeasure sides, angles, and check if parallel grid lines stay parallel.

15 min

In pairs



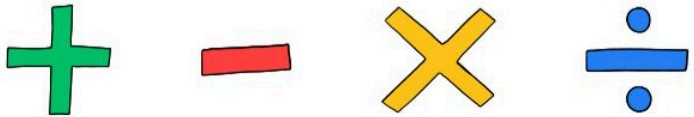
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DID YOU KNOW?

Slides, flips, and turns keep lines straight and parallel.

Slide a notebook across a desk and its ruled lines stay parallel.





$a^2+b^2=c^2$

What could this be?

This shape turned around a fixed point and all side lengths still match. Which move happened?

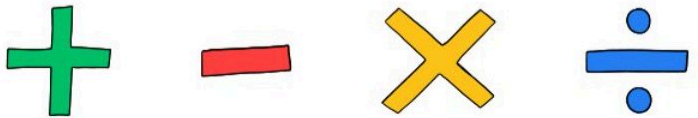




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Quick quiz

1. You translate a segment 3 units right. What happens to its length?
2. You reflect a 40-degree angle over a line. What is its new measure?
3. Two parallel lines are rotated 90 degrees. What are the images?
4. Which three motions give a congruent image?



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