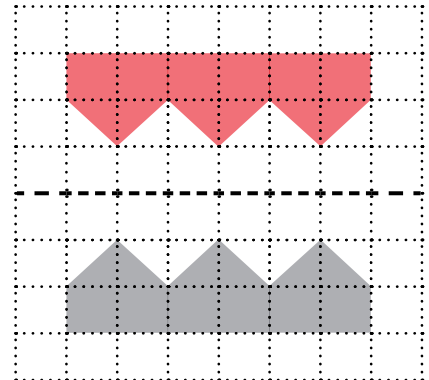
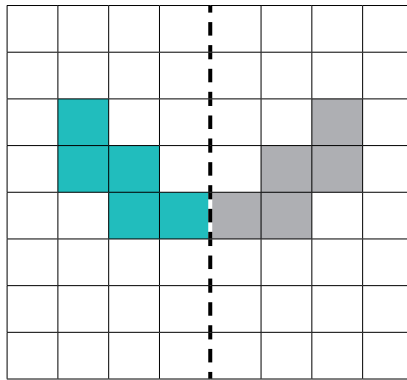
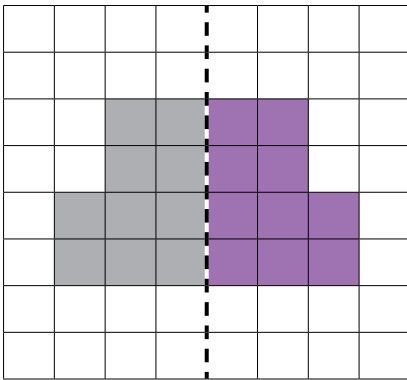


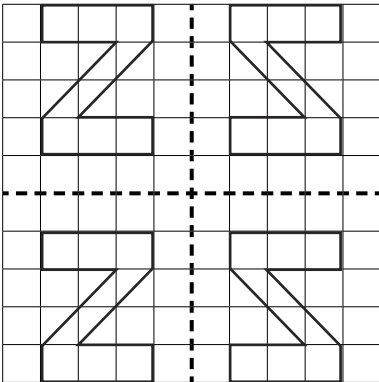
1) **B.** The shapes are not congruent. One heart is larger than the other.

2)



1) I agree with Kyle because each corresponding vertex of the trapezium should be the same distance from the mirror line. The trapezium has been translated rather than reflected.

2)



1) The capital letters that are identical when reflected in all four quadrants are H I O X.

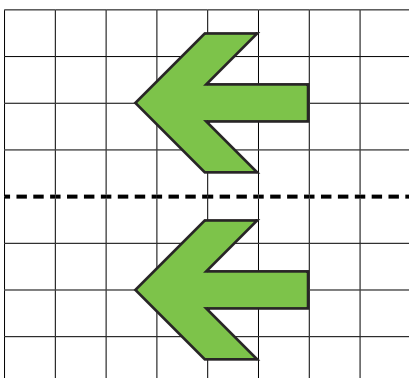
2) Teacher to check accurate reflections.



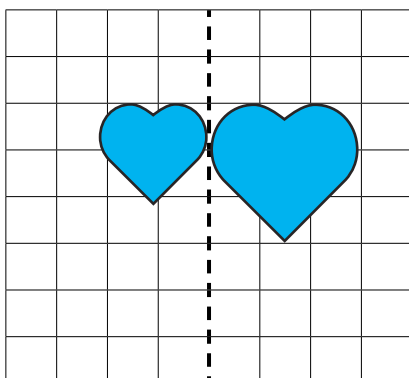


1) Which shape has not been reflected?

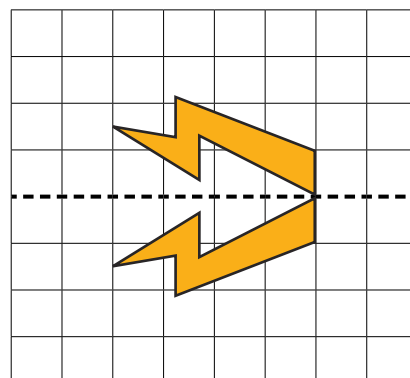
a)



b)

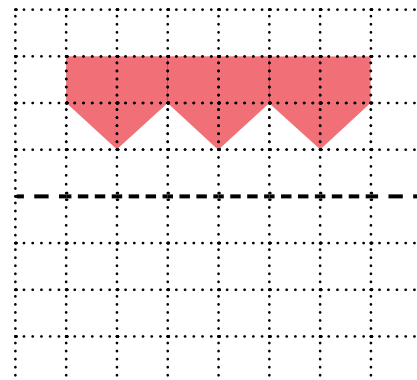
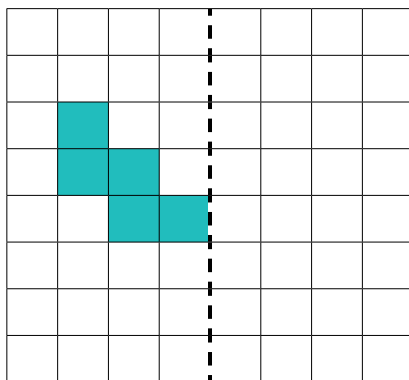
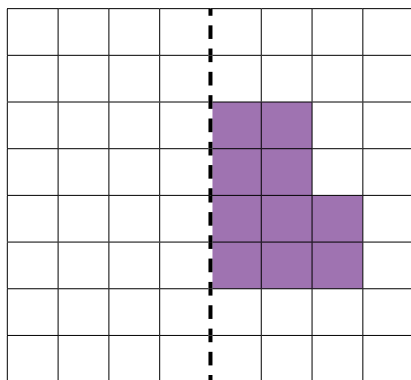


c)

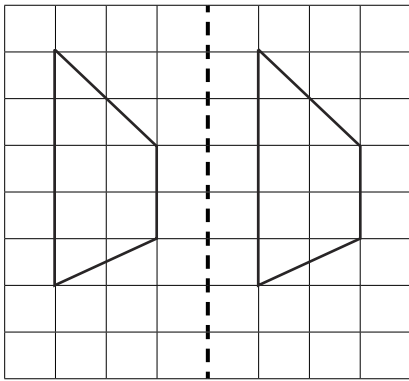


What is the mistake?

2) Reflect these shapes in the mirror line. You can use a mirror to help you.



1) Shani and Kyle are reflecting shapes.



Shani

The trapezium has been reflected correctly.



Kyle

This shape has not been reflected.

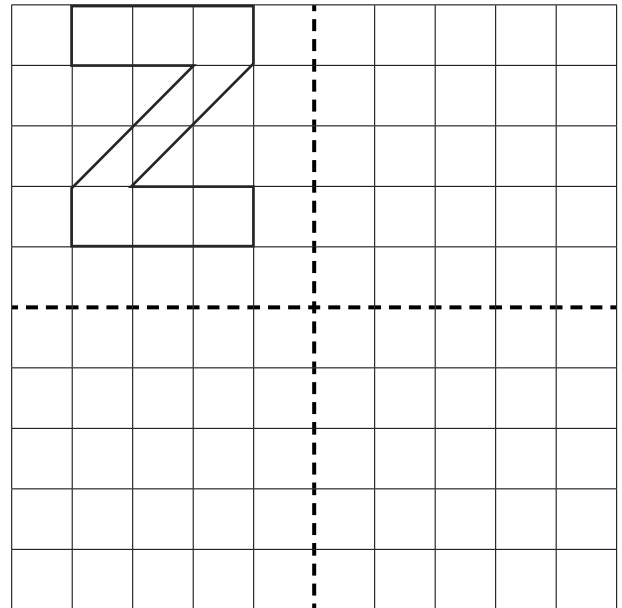
Who do you agree with and why?

I agree with \_\_\_\_\_ because \_\_\_\_\_

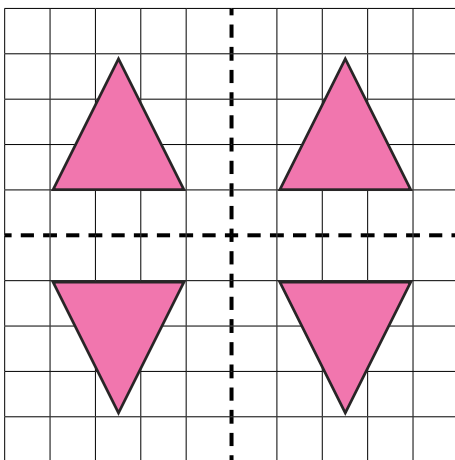
\_\_\_\_\_

\_\_\_\_\_

2) Reflect the letter across both the vertical and horizontal mirror lines so the letter is reflected in all four quadrants. Use a pencil, ruler and mirror to help you.



1) When reflecting through two mirror lines, although the triangles are congruent, they look 'upside down' to each other.



Which capital letters, when reflected through two mirror lines, look identical in all four reflections? Use squared or dotted paper to explore.



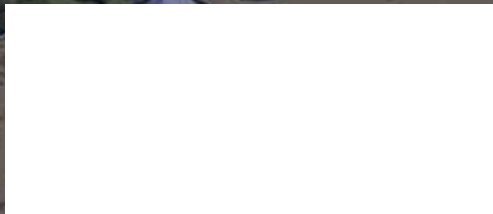
A B C D E F G H I J K L M N O P Q R U V W X Y Z

2) Using a pencil and ruler, draw the initials of your first and last name. Now reflect them in each quadrant.

**Diving into Mastery**

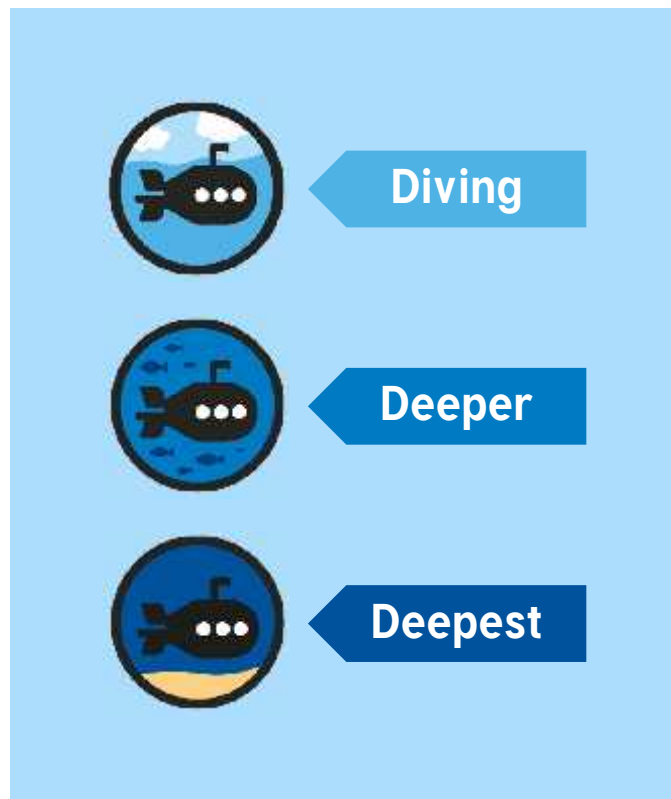


**Reflection**



# Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:



These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.

# National Curriculum Objective

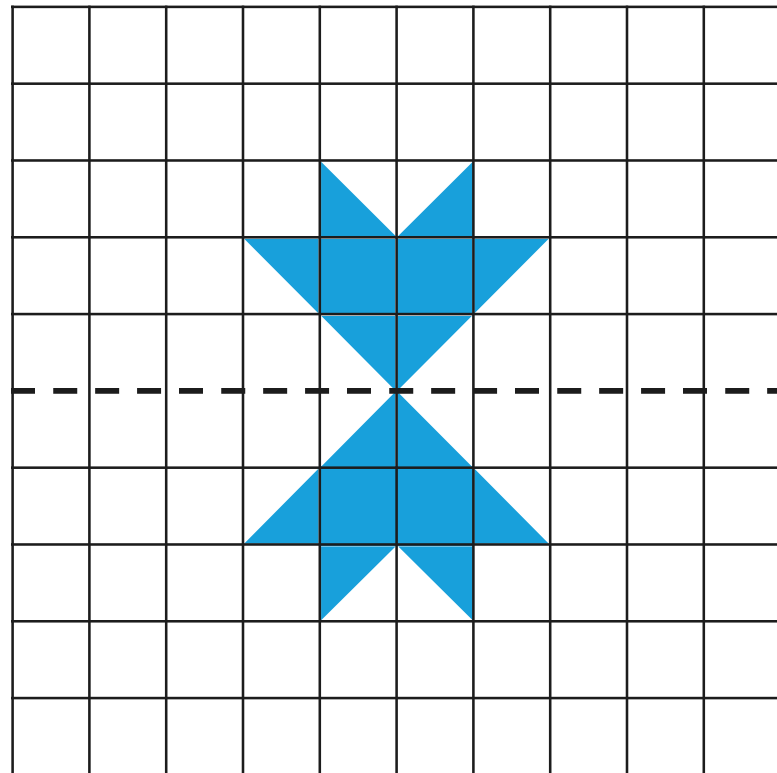
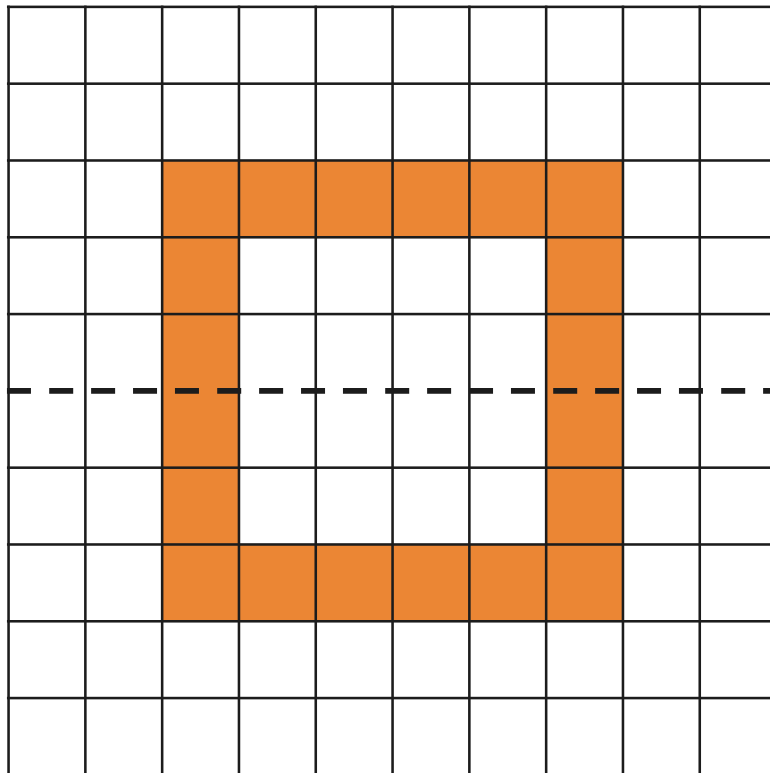
- Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.

## Reflection

## Diving

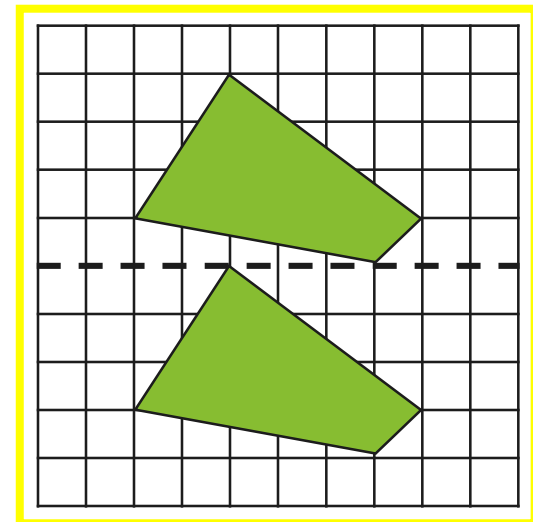
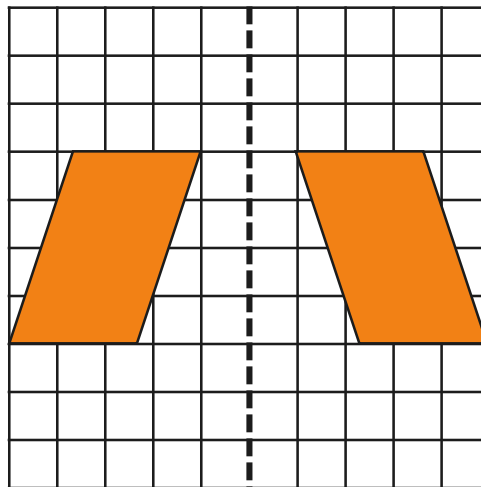
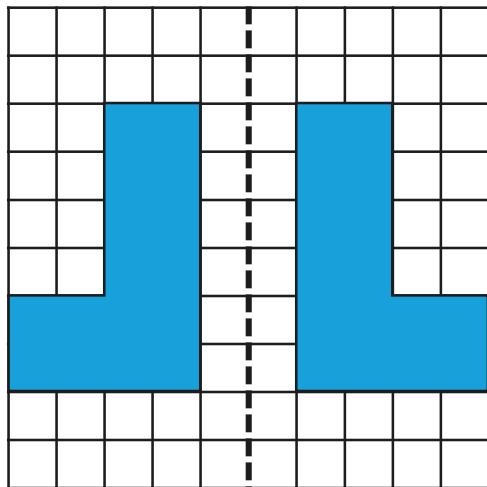


Reflect these shapes in the mirror lines.





Which is the odd one out and why? Discuss with your Learning Partner.



This is the odd one out. The trapezium has not been reflected; it has been translated.



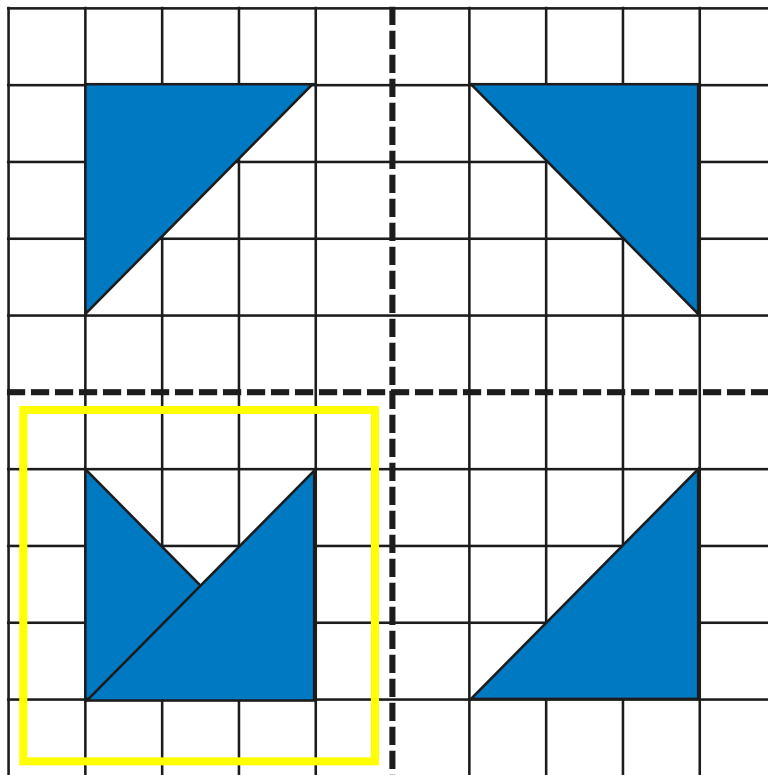
## Reflection

## Deeper



Jack is reflecting a triangle in two perpendicular mirror lines.

Where has he made a mistake? What should this triangle look like? Draw on your white board.



The highlighted triangle was incorrect.

It should look like this if it has been reflected correctly.

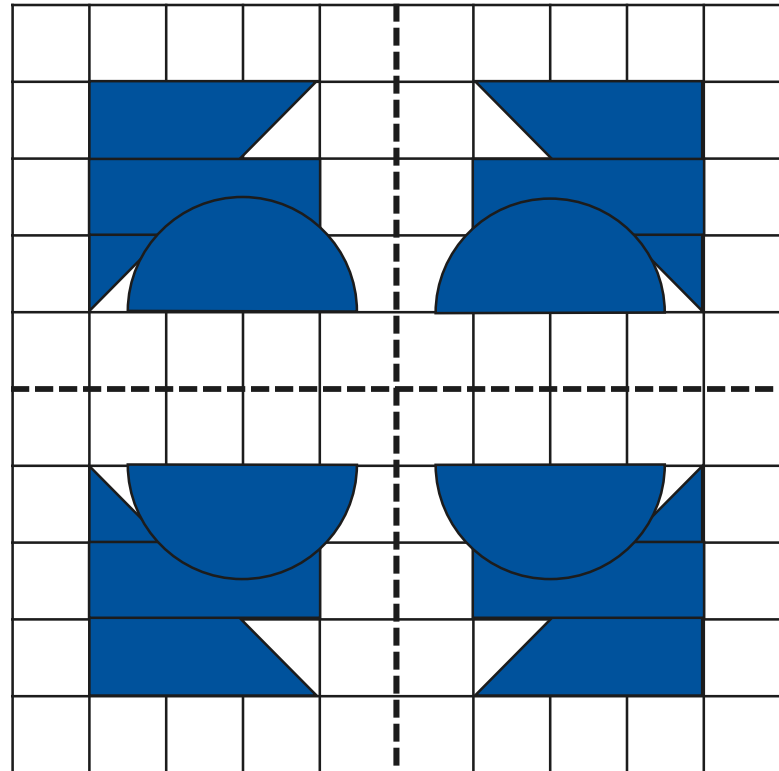
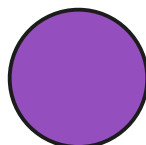
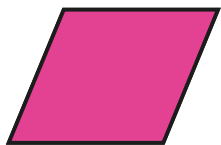
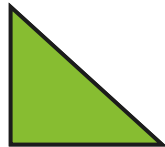


## Reflection

## Deepest



When reflecting a shape and a circle with tiles, all identical tiles are congruent. They look 'upside down' or 'upside up'. The triangle, semi-circle and parallelogram will look 'upside down' or 'upside up' when reflecting through two mirror lines. Can you identify any other shapes that would look the same in all four quadrants?

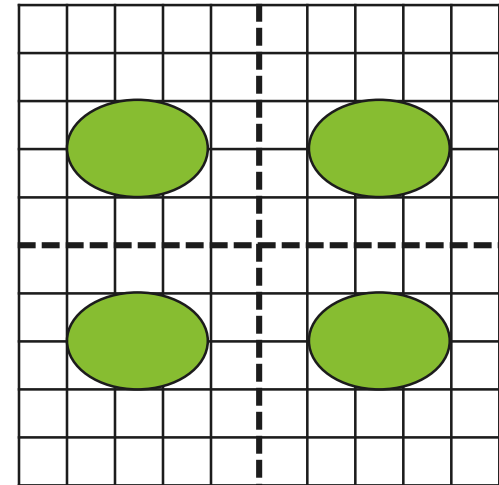
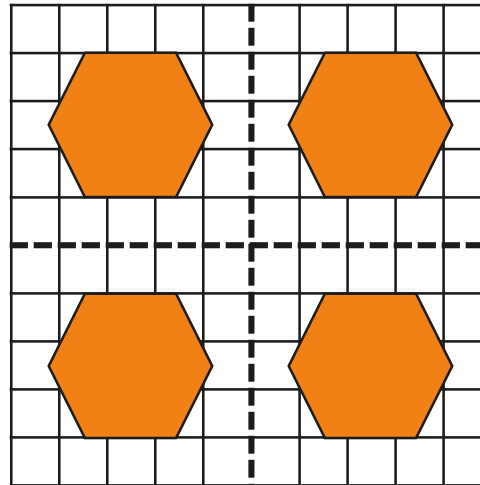
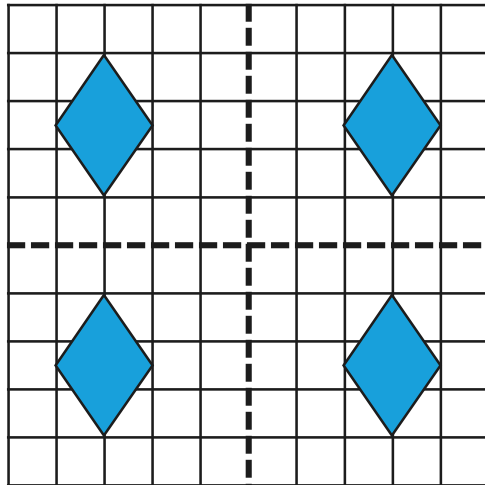


## Reflection

## Deepest



You might have thought of a rhombus regular hexagon and an oval.



Are there any other regular polygons that look identical in all four quadrants once reflected?

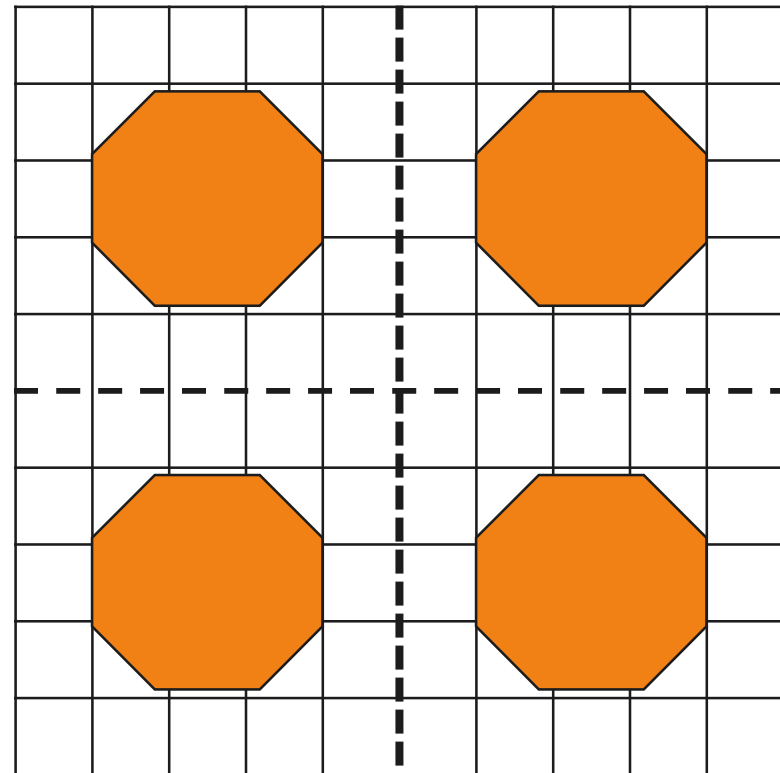
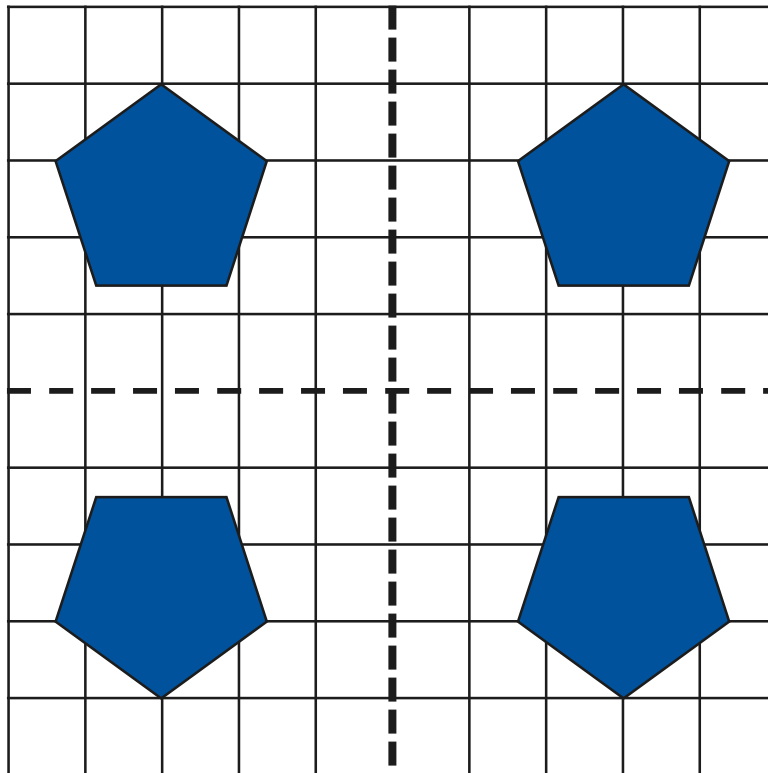
Can you and your learning partner make a generalisation about reflected regular polygons and which look identical and which don't?

## Reflection

## Deepest

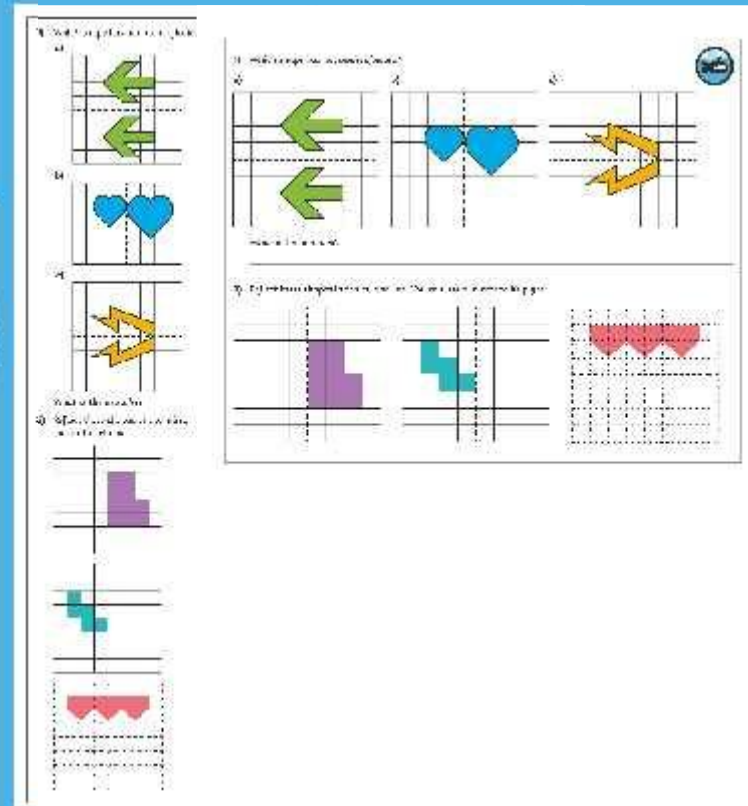
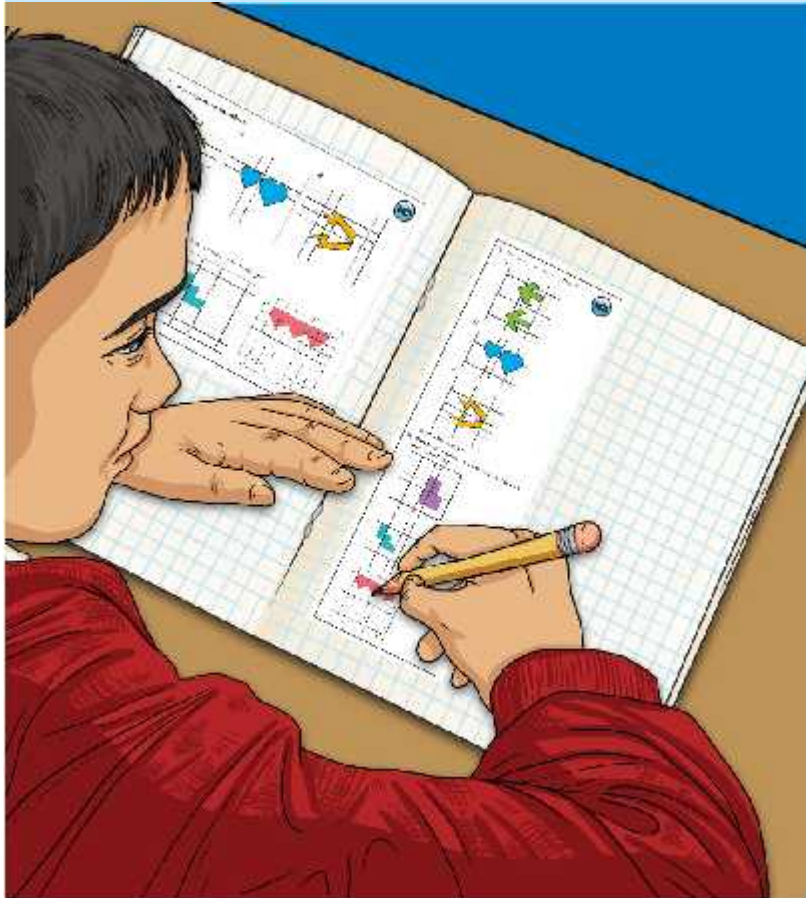


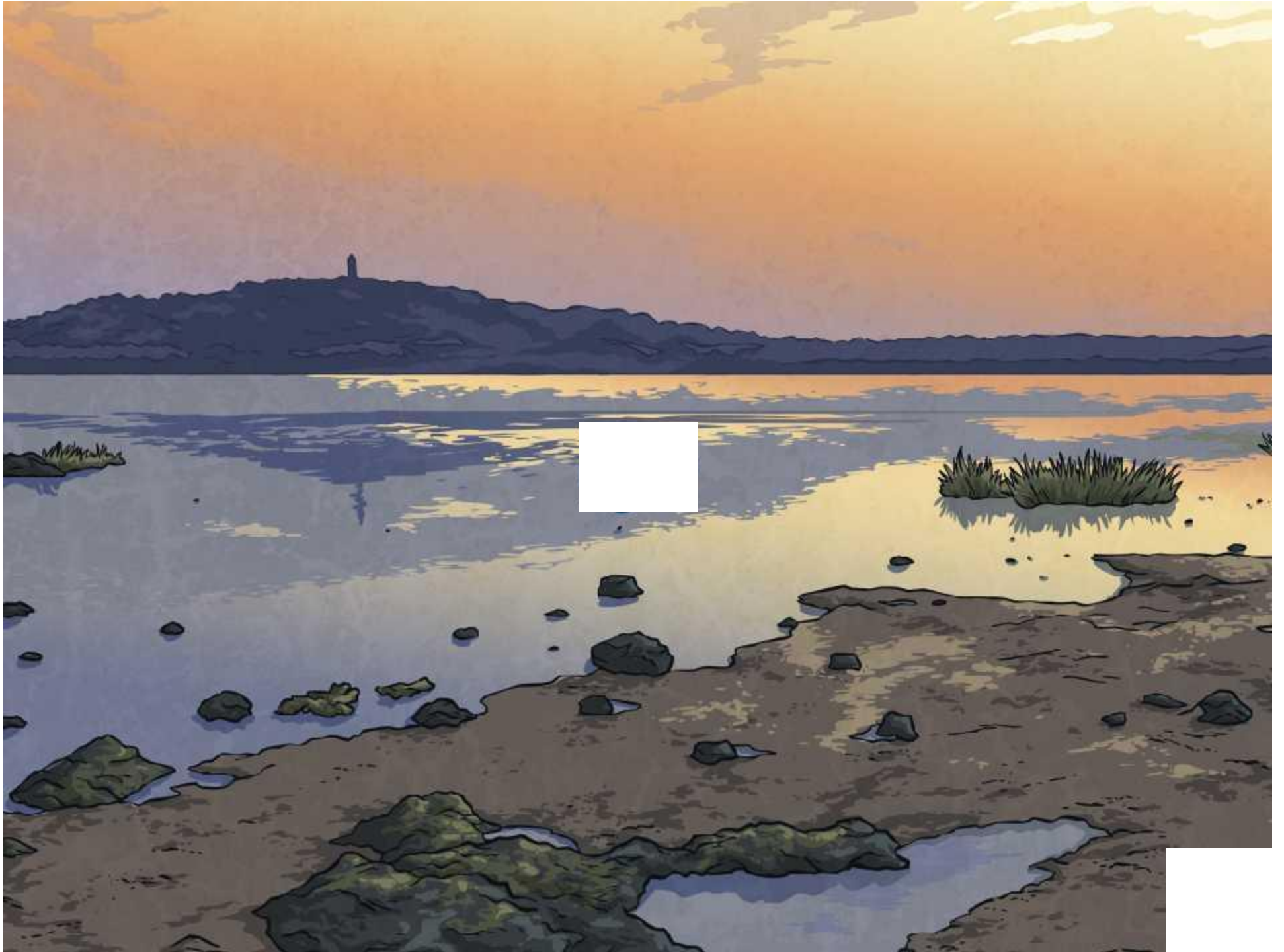
You might have noticed that only regular polygons with an even number of sides look identical when reflected across two perpendicular mirror lines.



## Reflection

Dive in by completing your own activity!

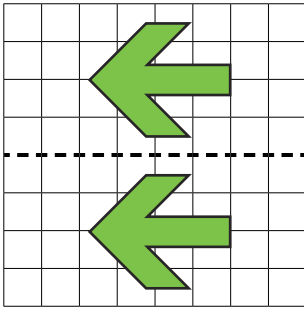




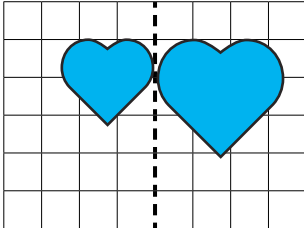
1) Which shape has not been reflected?



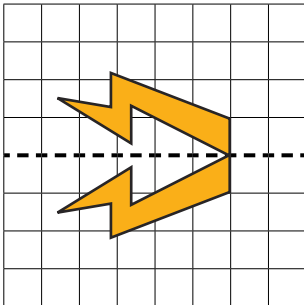
a)



b)

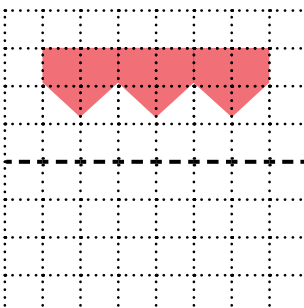
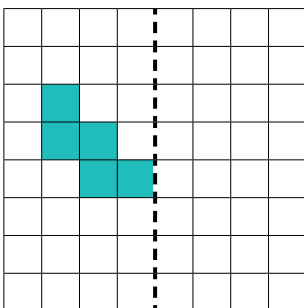
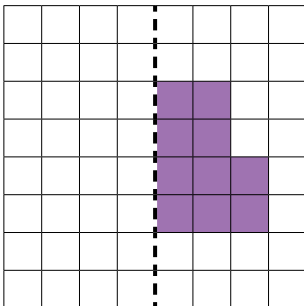


c)



What is the mistake?

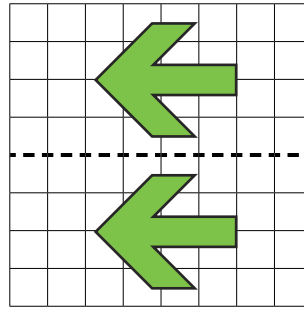
2) Reflect these shapes in the mirror line. You can use a mirror to help you.



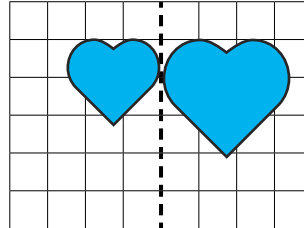
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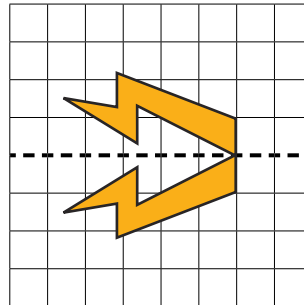
a)



b)

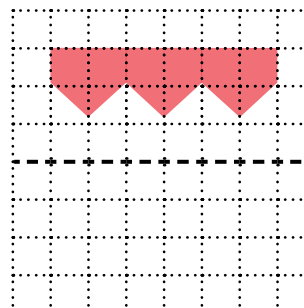
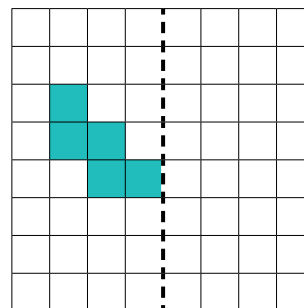
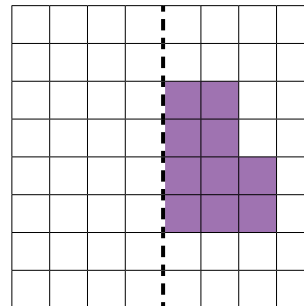


c)



What is the mistake?

2) Reflect these shapes in the mirror line. You can use a mirror to help you.



1) Shani and Kyle are reflecting shapes.



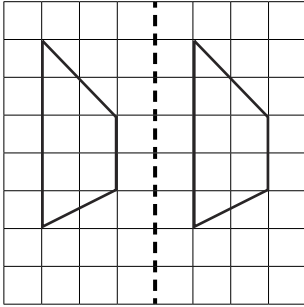
The trapezium has been reflected correctly.

Shani



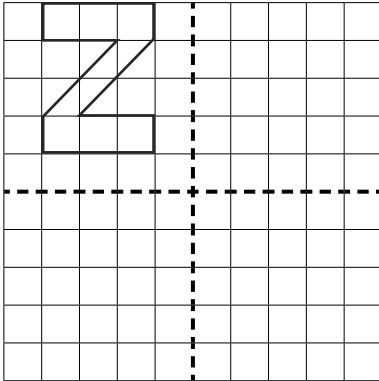
This shape has not been reflected.

Kyle

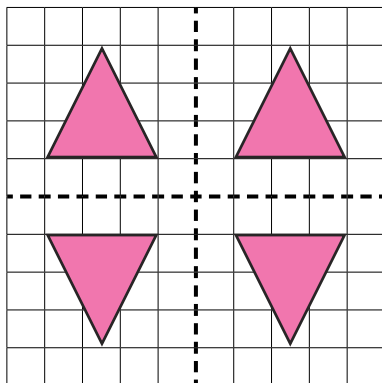


Who do you agree with and why?

2) Reflect the letter across both the vertical and horizontal mirror lines so the letter is reflected in all four quadrants. Use a pencil, ruler and mirror to help you.



1) When reflecting through two mirror lines, although the triangles are congruent, they look 'upside down' to each other.



Which capital letters, when reflected through two mirror lines, look identical in all four reflections? Use squared or dotted paper to explore.  
**A B C D E F G H I J K L M N O P Q R U V W X Y Z**

2) Using a pencil and ruler, draw the initials of your first and last name. Now reflect them in each quadrant.

1) Shani and Kyle are reflecting shapes.



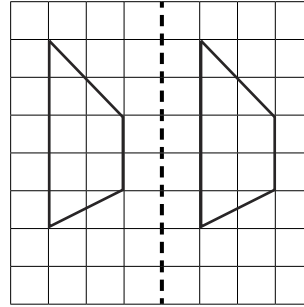
The trapezium has been reflected correctly.

Shani



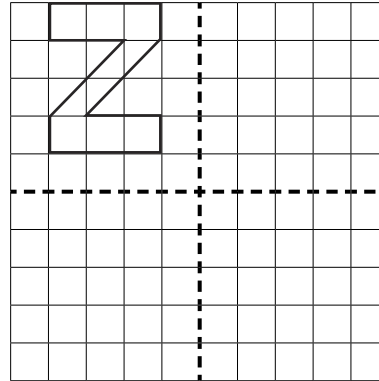
This shape has not been reflected.

Kyle

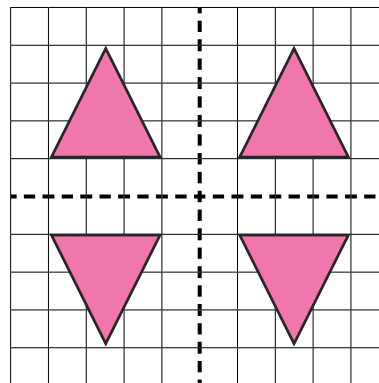


Who do you agree with and why?

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2) Using a pencil and ruler, draw the initials of your first and last name. Now reflect them in each quadrant.