

# Herculean

- 1) Draw all of the lines of symmetry on these shapes using a ruler.



How many lines of symmetry does each shape have?  
Write the answer under each shape.

- 2) Circle the shapes that have all their correct lines of symmetry drawn on:



Trace over any incorrect lines of symmetry in a different colour.

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- 1) Are these statements always, sometimes or never true?

- a) A triangle has at least one line of symmetry. \_\_\_\_\_
- b) A circle has an infinite number of lines of symmetry. \_\_\_\_\_
- c) A pentagon has ten lines of symmetry. \_\_\_\_\_
- d) A parallelogram has no lines of symmetry. \_\_\_\_\_

- 2) This line of symmetry is incorrect. Explain why in your book.



- 1) Zainab says, "2D shapes with straight edges always have the same number of sides as lines of symmetry."

Investigate her statement and answer the following questions in your book.

Is she correct?

How do you know?

If she is incorrect, what mistake has she made?

- 2) A regular pentagon has \_\_\_\_\_ lines of symmetry.

Investigate if it is possible to draw an irregular pentagon with:

- 1 line of symmetry;
- 2 lines of symmetry;
- 3 lines of symmetry;
- 4 lines of symmetry;
- more than 5 lines of symmetry.



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1) Are these statements always, sometimes or never true?

- a) A triangle has at least one line of symmetry. Sometimes
- b) A circle has an infinite number of lines of symmetry. Always
- c) A pentagon has ten lines of symmetry. Never
- d) A parallelogram has no lines of symmetry. Sometimes

2) This line of symmetry is incorrect. Explain why in your book.



The curled points on the star don't line up along that line of symmetry.

1) Zainab says, "2D shapes with straight edges always have the same number of sides as lines of symmetry."

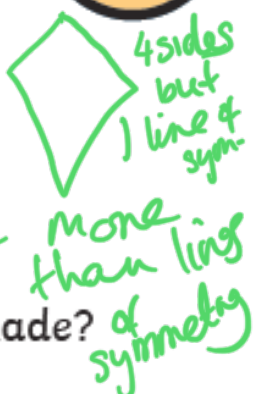


Investigate her statement and answer the following questions in your book.

Is she correct? NO

How do you know? Some shapes have more sides than lines of symmetry.

If she is incorrect, what mistake has she made? only thought about regular shapes.



2) A regular pentagon has 5 lines of symmetry.

Investigate if it is possible to draw an irregular pentagon with:

- 1 line of symmetry;
- 2 lines of symmetry;
- 3 lines of symmetry;
- 4 lines of symmetry;
- more than 5 lines of symmetry.

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