



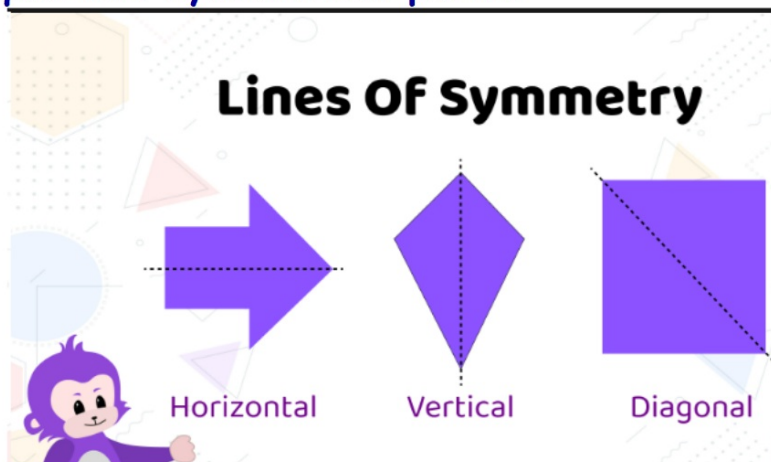
Find Lines of Symmetry

Student's Book p.74

What You Will Learn:

- Identify symmetrical figures.
- Draw all lines of symmetry in 2D shapes and patterns.

A line of symmetry is the line that divides a shape or an object into 2 equal and symmetrical parts.

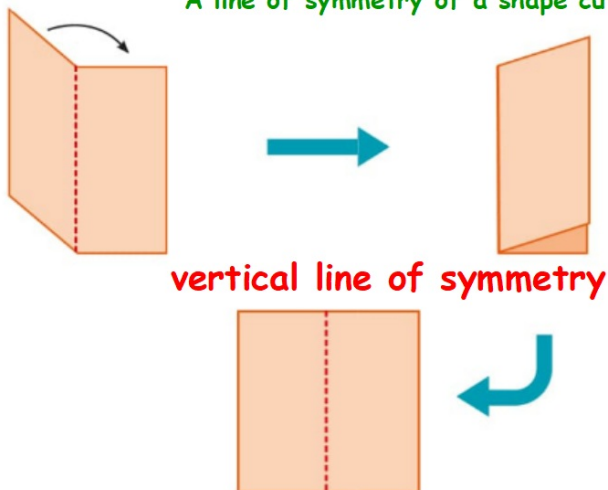


Look Back

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Ron folds a square piece of paper into half to find its line of symmetry.

A line of symmetry of a shape cuts the shape exactly in half.

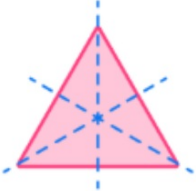
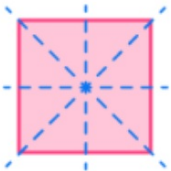
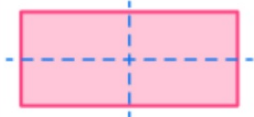
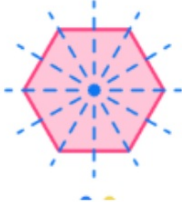


4 lines of symmetry
4 sides
4 vertices
4 angles

Does the piece of paper have another line of symmetry? **Yes**

How do you find out? Discuss it with your partner.

all of its sides are equal

| | | | |
|---|---|---|--|
| Equilateral triangle: 3 lines of symmetry  | Square: 4 lines of symmetry  | Rectangle: 2 lines of symmetry  | Regular hexagon: 6 lines of symmetry  |
|---|---|---|--|

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Thinking Cap



Do you think that there are other lines of symmetry on the square paper? Make a conjecture and explain why. Fold a square paper to check your answer.

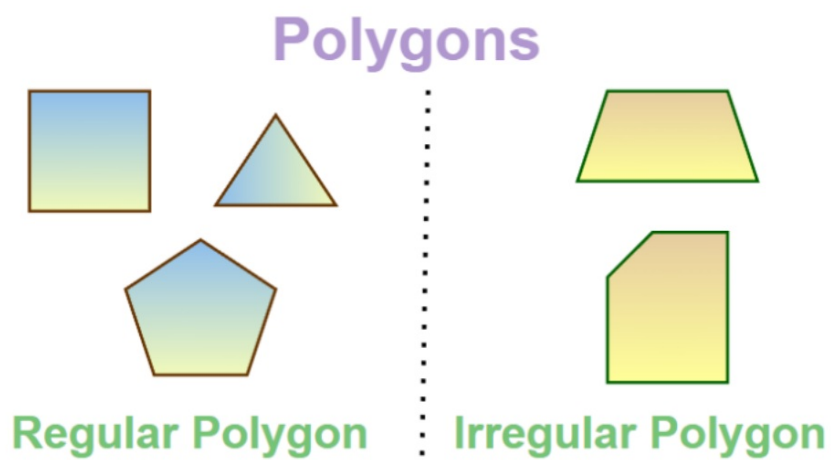


A square has 4 lines of symmetry: 1 vertically, 1 horizontally, 2 diagonally

A polygon can be categorized as a regular or irregular polygon based on the length of its sides and the measure of its angles.

In a regular polygon all sides and angles are equal.

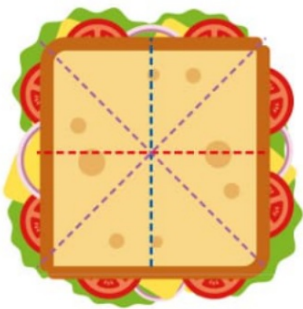
In an irregular polygon sides and angles are not equal.



Let's Learn

Student's Book p.75

- a Squares are regular polygons. They have more than 2 lines of symmetry. A square has a **horizontal** line of symmetry, a **vertical** line of symmetry and 2 **diagonal** lines of symmetry.

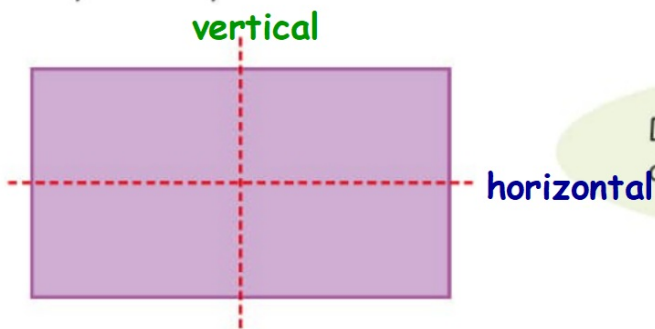


A regular polygon is a polygon with all sides equal.

A square is a regular polygon that has 4 equal sides.
So, it has 4 lines of symmetry.

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- b Rectangles have a horizontal line of symmetry and a vertical line of symmetry.



Does a rectangle have diagonal lines of symmetry?

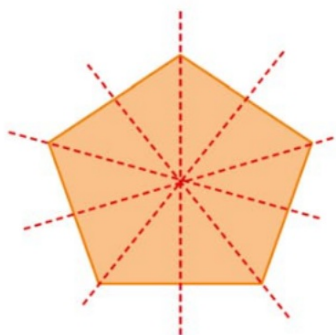
No



A rectangle is an irregular polygon.
It has 4 sides but no all of them are equal.

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c Look at the regular polygon.



5 sides
5 angles
5 vertices

A regular pentagon has 5 sides.

It has 5 lines of symmetry.

The number of sides and the number of lines of symmetry of a regular polygon are the same.

How many lines of symmetry does a regular hexagon has?

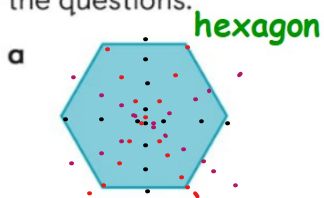


6 lines of symmetry

Let's Practise

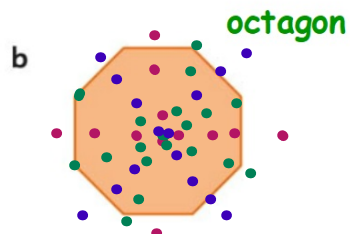
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- I Draw all the lines of symmetry of each regular polygon. Then answer the questions.



This regular polygon has
6 sides.

It has 6 lines of symmetry.



This regular polygon has
8 sides.

It has 8 lines of symmetry.



What do you notice about the number of sides and the number of lines of symmetry of a regular polygon?

The number of sides and the number of lines of symmetry of a regular polygon are the same.

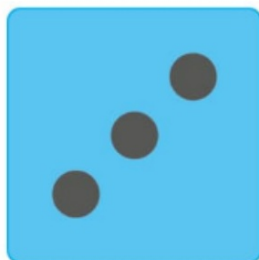
2 Draw all the lines of symmetry for each object or pattern.

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a



b

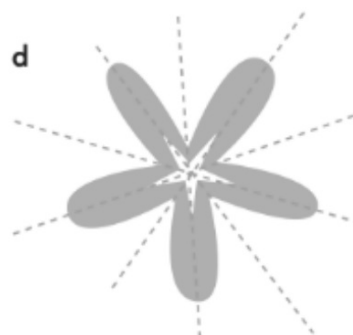
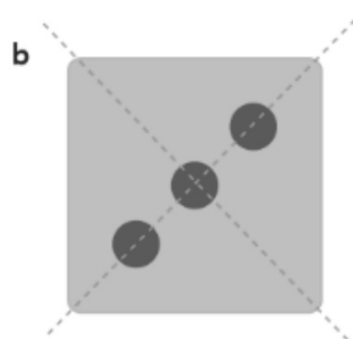
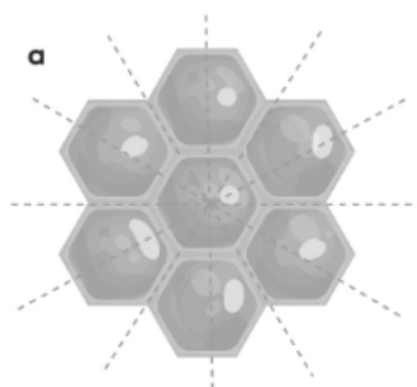


c



d

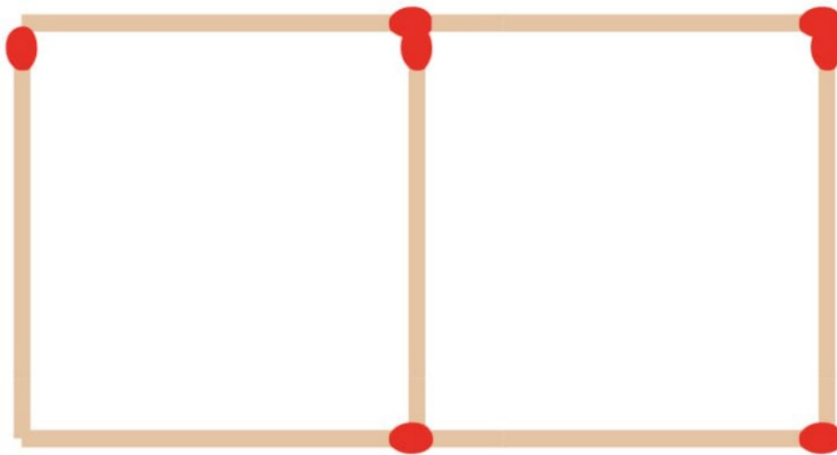




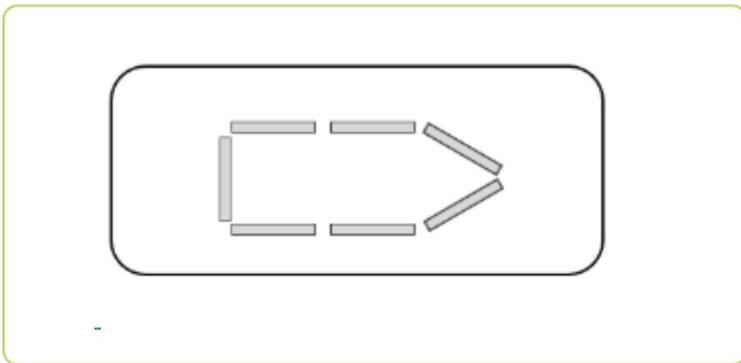
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- 3 Move two match sticks so that the figure has exactly one line of symmetry. Draw your diagram and the line of symmetry. Show your partner how you did it.



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Tick (✓) to show what you can do.

☐

I can identify symmetrical figures.

☐

I can draw all lines of symmetry in 2D shapes and patterns.