NCERT Solutions for Class 7 Maths Chapter 14: NCERT Solutions for Class 7 Maths Chapter 14 cover the topic of "Symmetry." Symmetry is a fundamental concept in mathematics and is found in various objects and shapes around us. In this chapter students will learn about different types of symmetry, such as line symmetry and rotational symmetry. They will also know how to identify and create symmetric figures. The solutions provided in this chapter help students understand the concepts of symmetry better and solve problems related to it. By practicing with these solutions, students can enhance their understanding of symmetry and develop their problem-solving skills in mathematics.

NCERT Solutions for Class 7 Maths Chapter 14 PDF

Below is the PDF link for NCERT Solutions for Class 7 Maths Chapter 14: Symmetry. By using this PDF you can improve your math skills and do well in your exams. It's a useful resource for learning and practicing symmetry concepts.

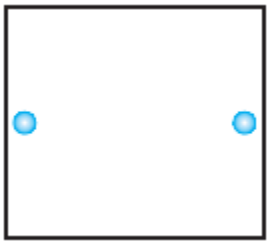
These solutions aim to simplify and improve students comprehension of the chapter. By referring to these NCERT Solutions for Class 7 Maths Chapter 14, students can enhance their understanding of the subject and tackle questions with greater accuracy.

NCERT Solutions for Class 7 Maths Chapter 14

NCERT Solutions for Class 7 Maths Chapter 14 Symmetry

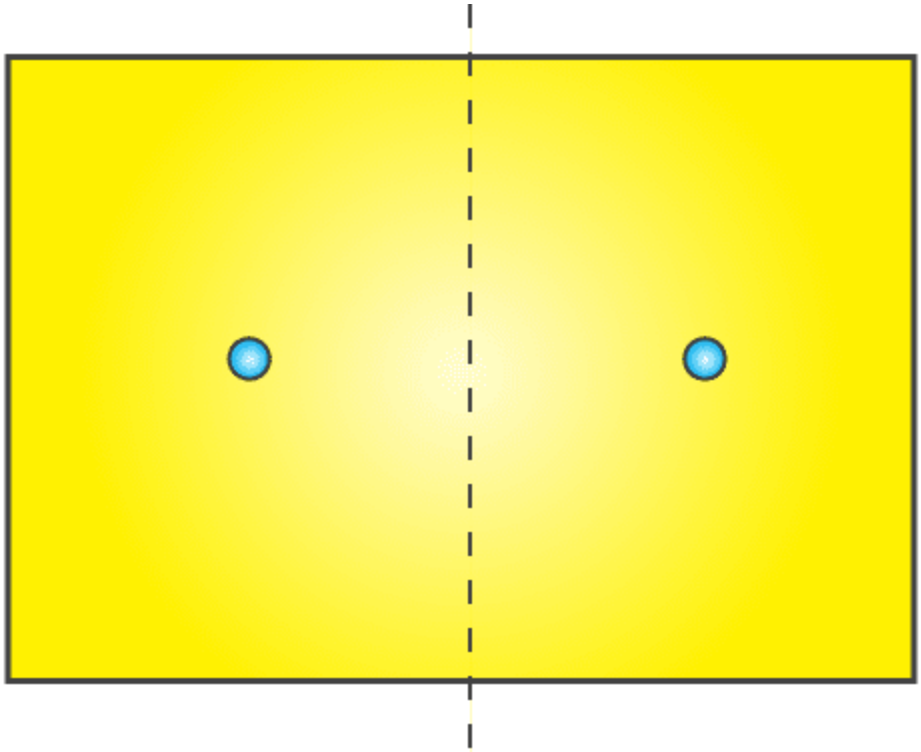
1. Copy the figures with punched holes and find the axes of symmetry for the following:

(a)



Solution:-

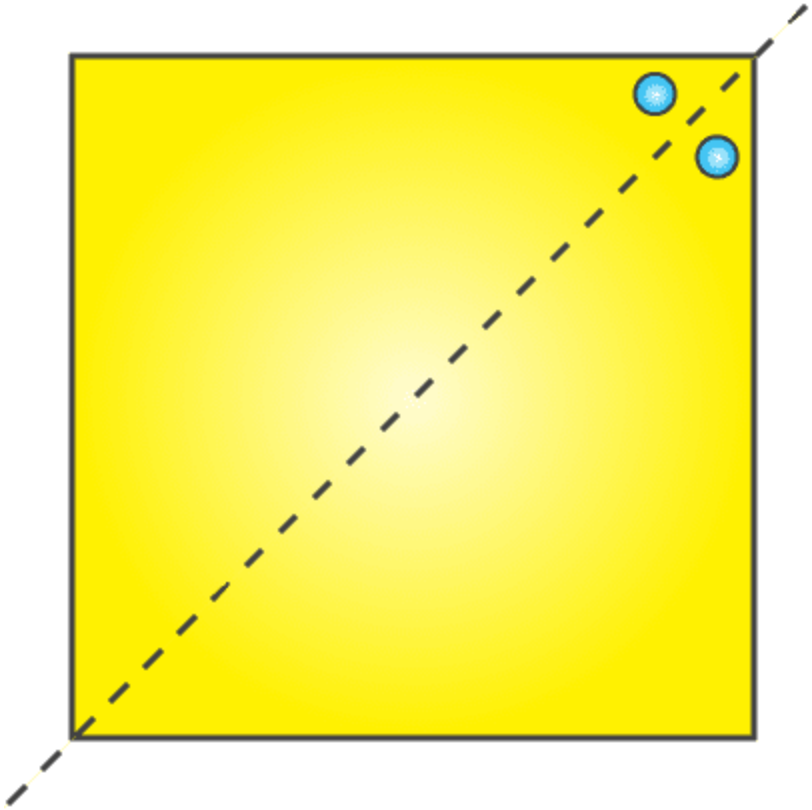
A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.



(b)

Solution:-

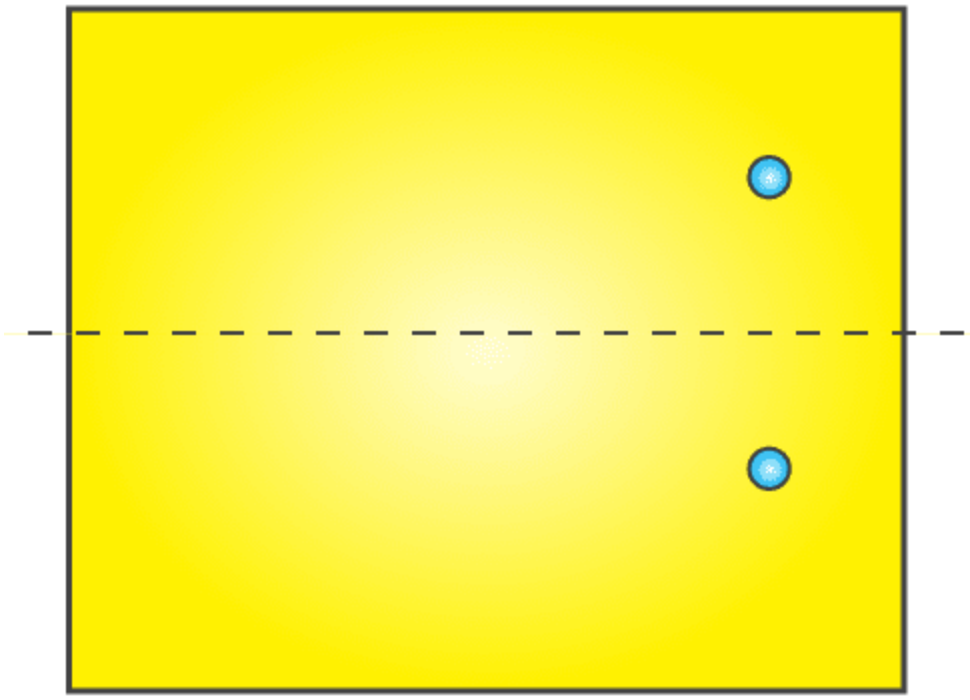
A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.



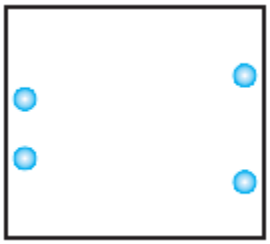
(c)

Solution:-

A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.

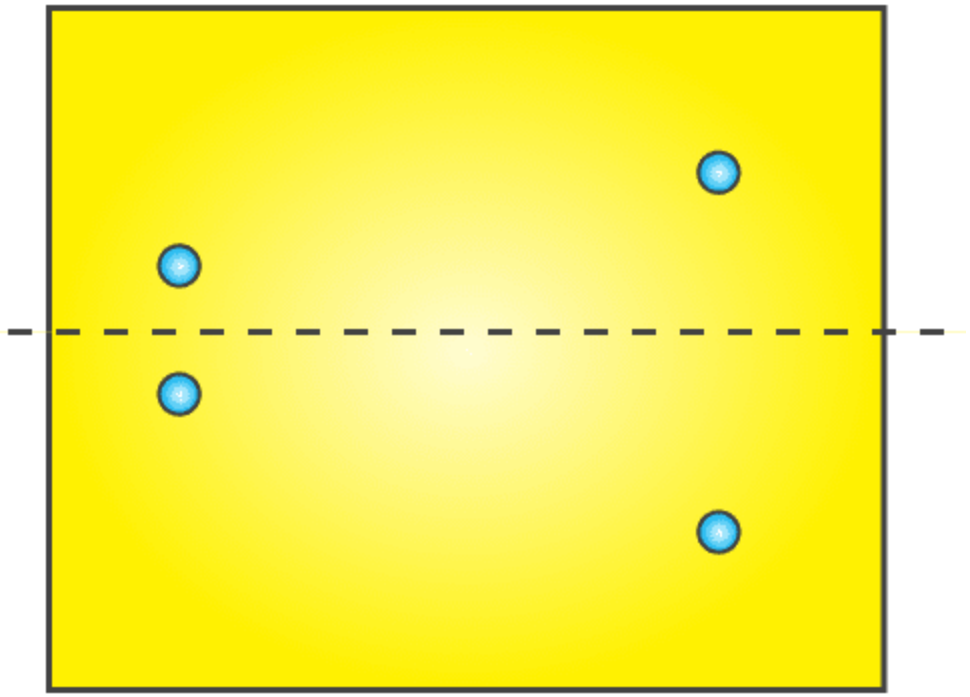


(d)

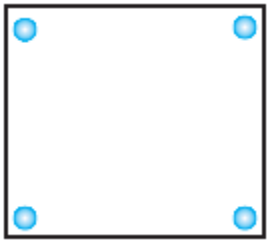


Solution:-

A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.

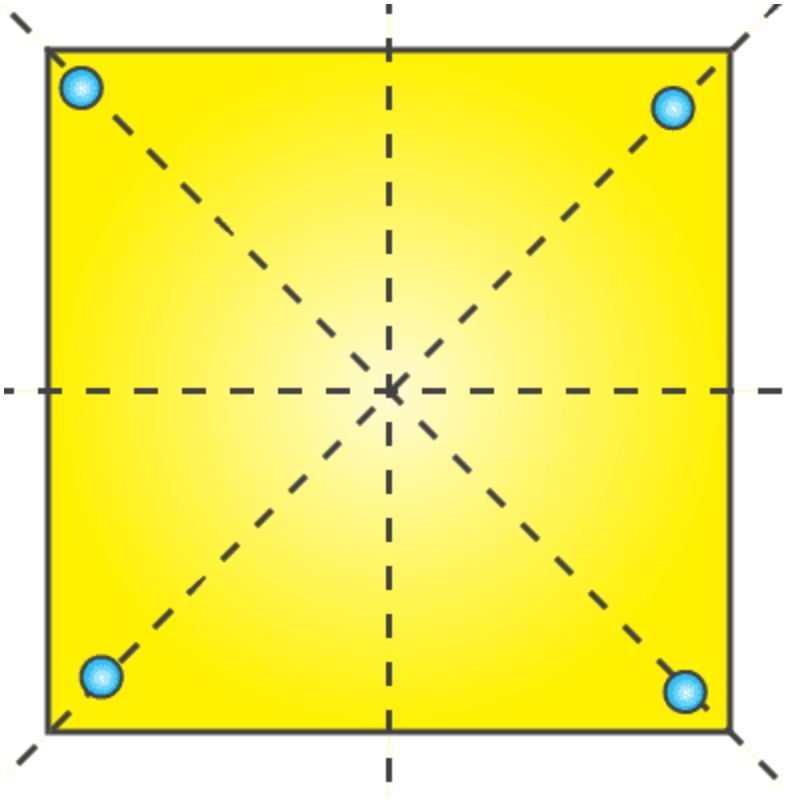


(e)

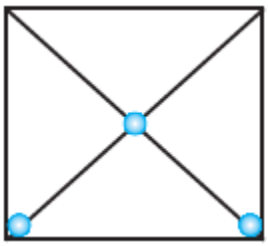


Solution:-

A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.

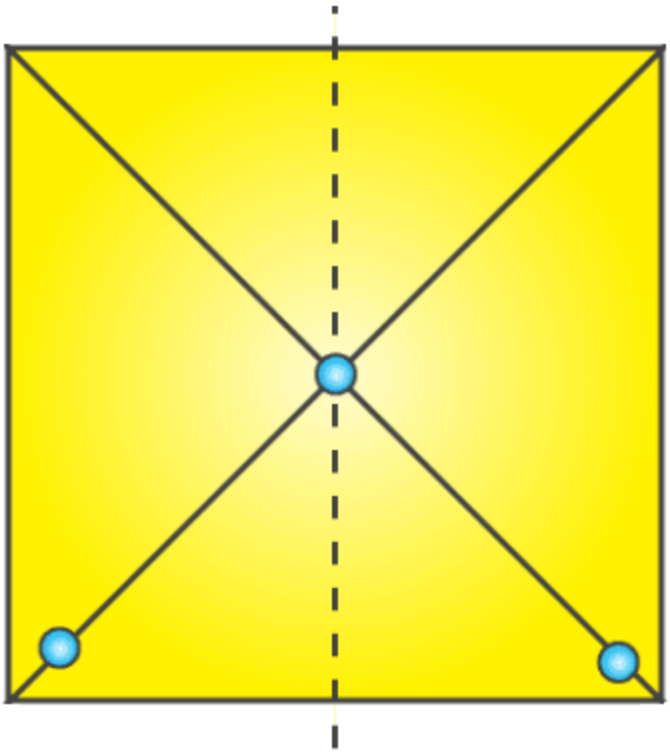


(f)

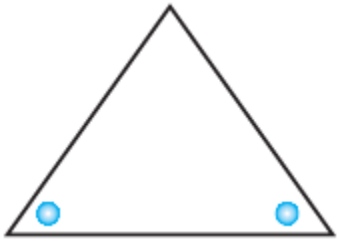


Solution:-

A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.

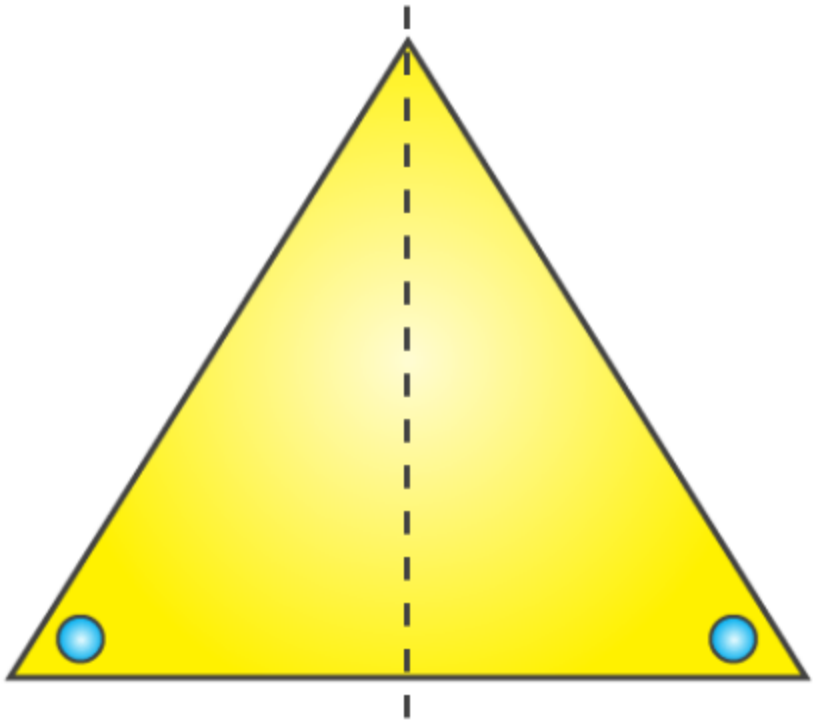


(g)

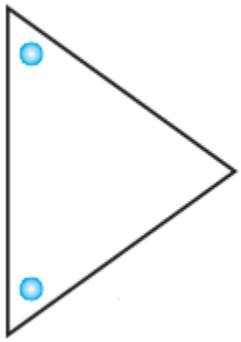


Solution:-

A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.

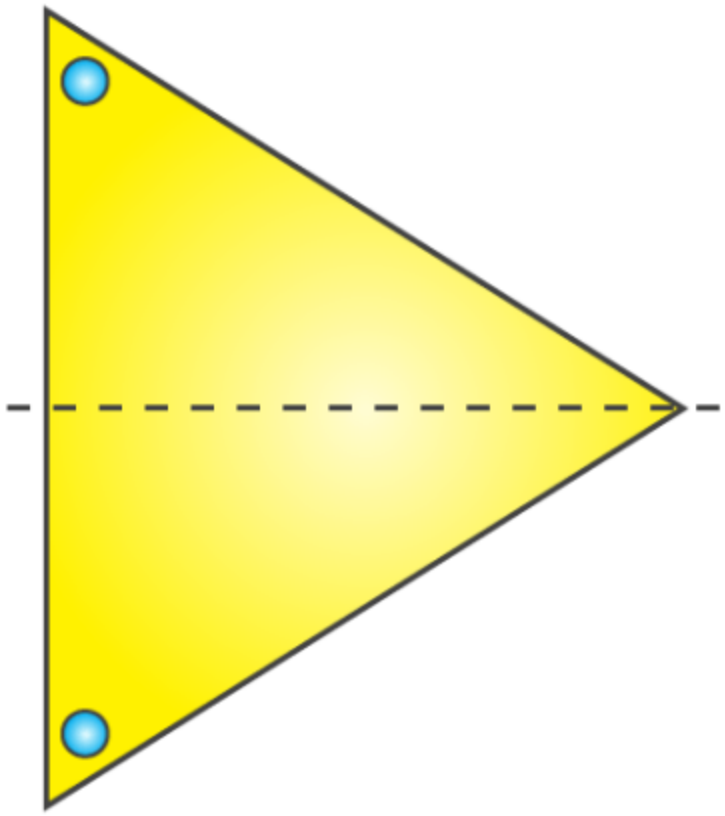


(h)

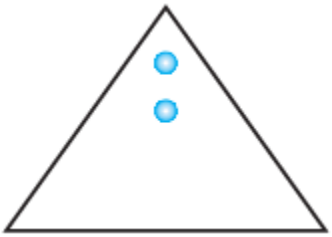


Solution:-

A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.

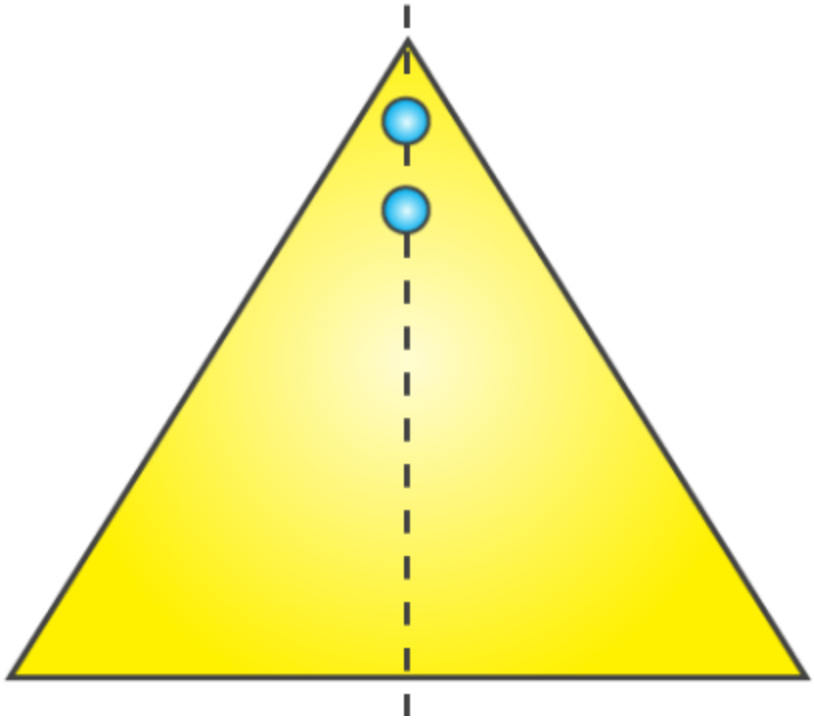


(i)

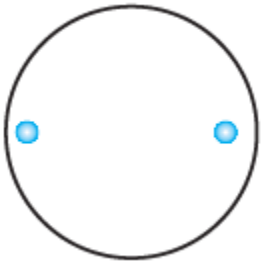


Solution:-

A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.

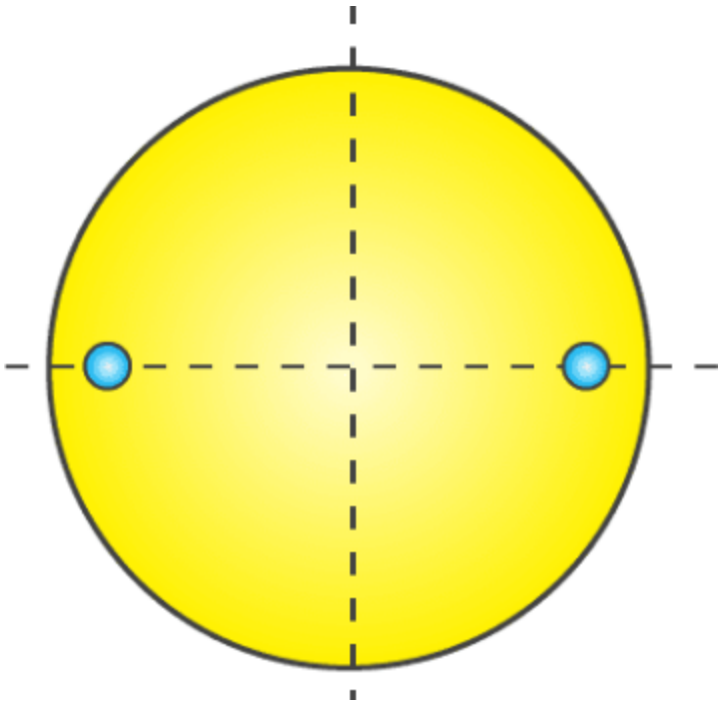


(j)

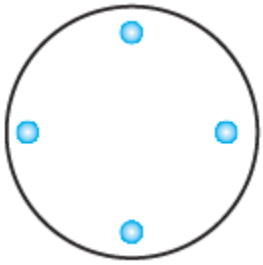


Solution:-

A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.

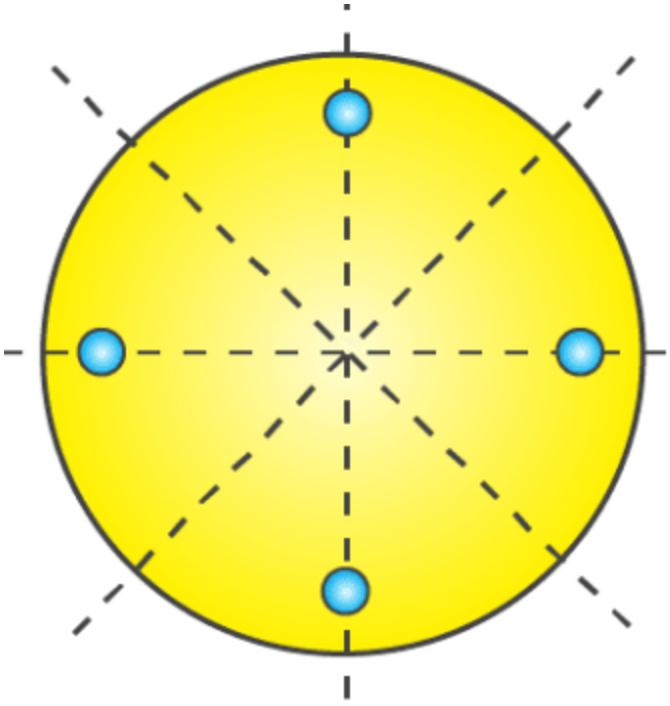


(k)

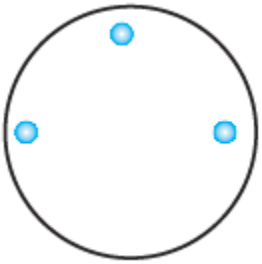


Solution:-

A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.

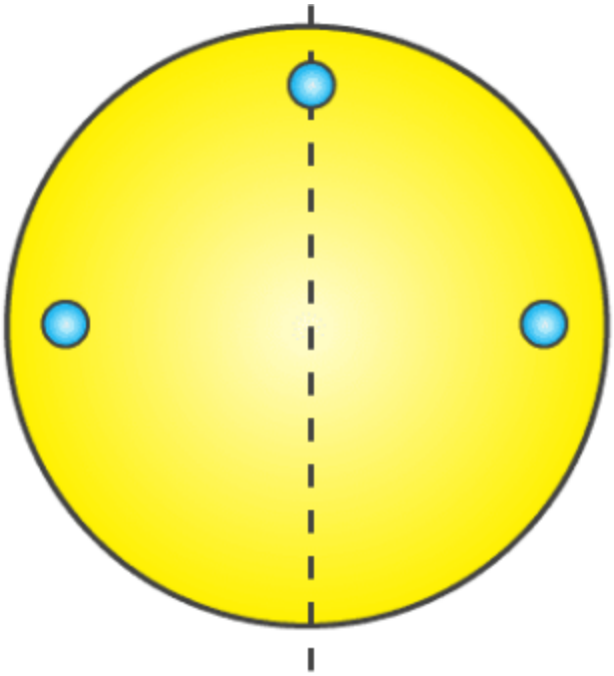


(l)



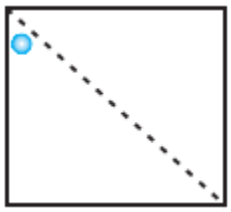
Solution:-

A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.



2. Given the line(s) of symmetry, find the other hole(s):

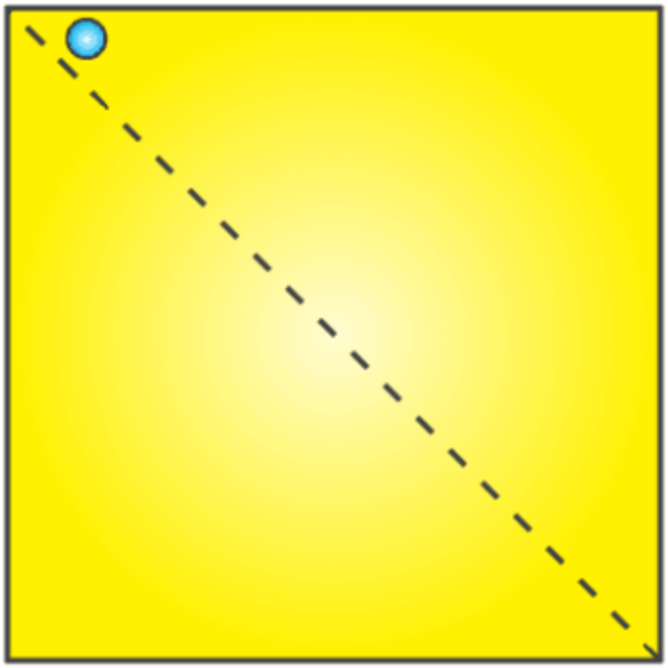
(a)



Solution:-

A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.

So, the other hole is shown in the figure below.

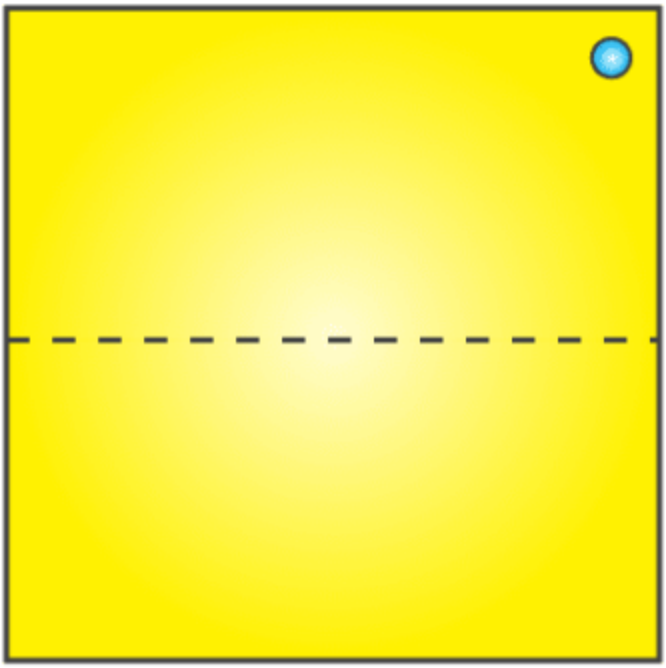


(b)

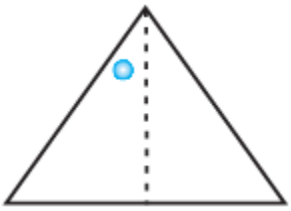
Solution:-

A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.

So, the other hole is shown in the figure below.



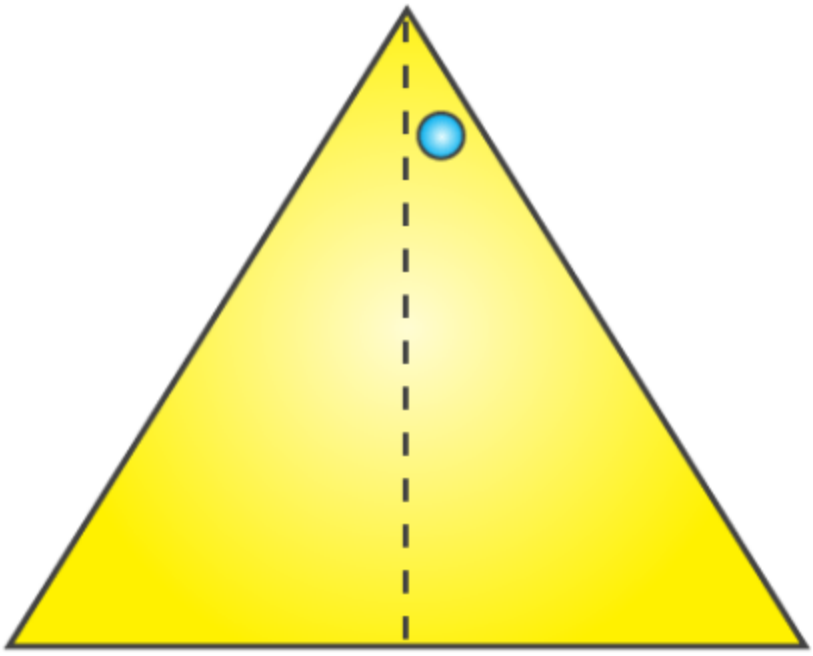
(c)



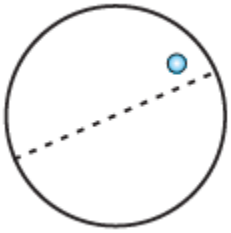
Solution:-

A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.

So, the other hole is shown in the figure below.



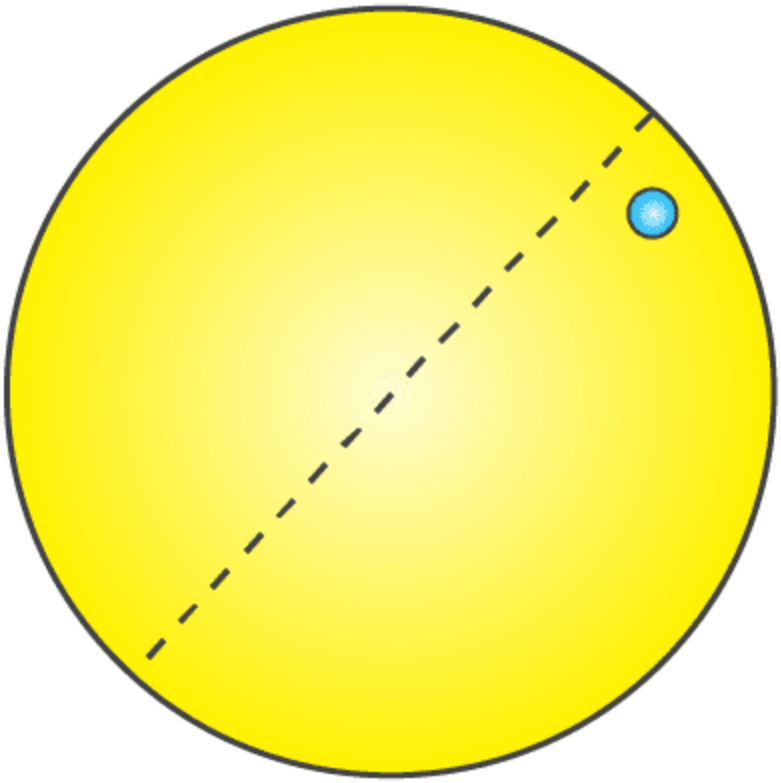
(d)



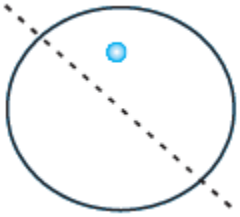
Solution:-

A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.

So, the other hole is shown in the figure below.



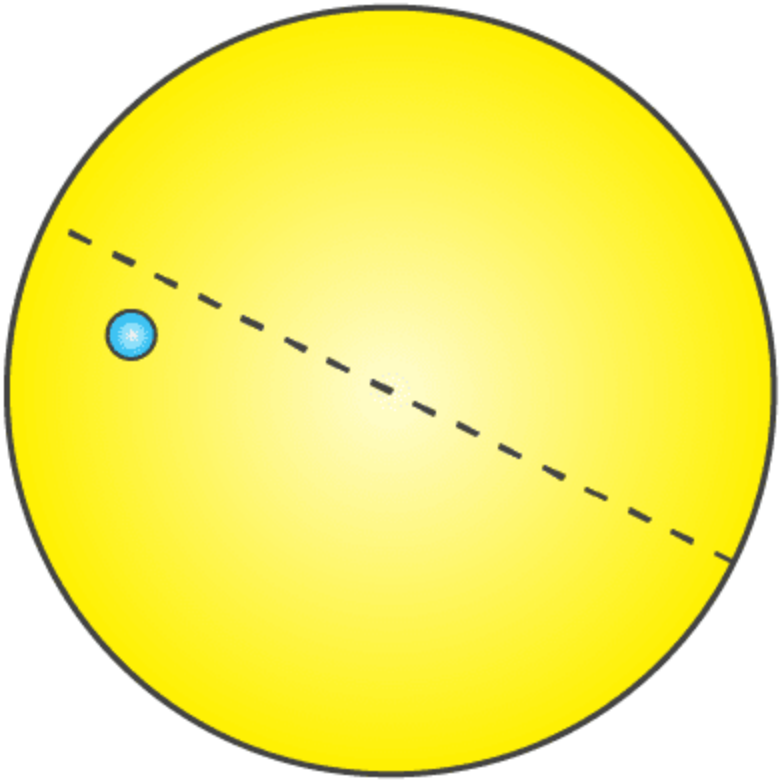
(e)



Solution:-

A figure has a line of symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.

So, the other hole is shown in the figure below.



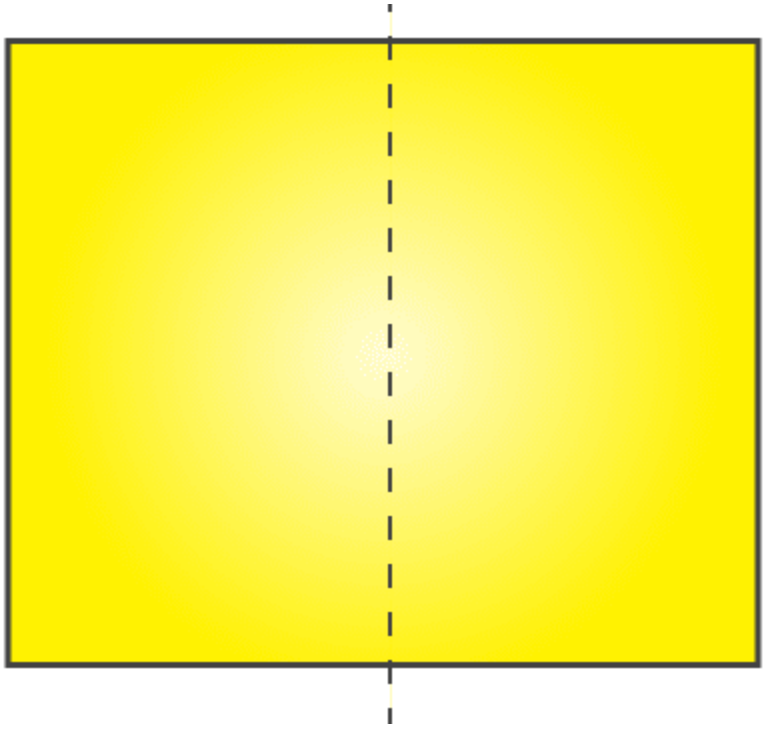
3. In the following figures, the mirror line (i.e., the line of symmetry) is given as a dotted line. Complete each figure performing reflection in the dotted (mirror) line. (You might perhaps place a mirror along the dotted line and look into the mirror for the image). Are you able to recall the name of the figure you complete?

(a)

Solution:-

The concept of line of symmetry is closely related to mirror reflection. A shape has line symmetry when one half of it is the mirror image of the other half. A mirror line, thus helps to visualise a line of symmetry.

While dealing with mirror reflection, care is needed to note down the left-right changes in the orientation.



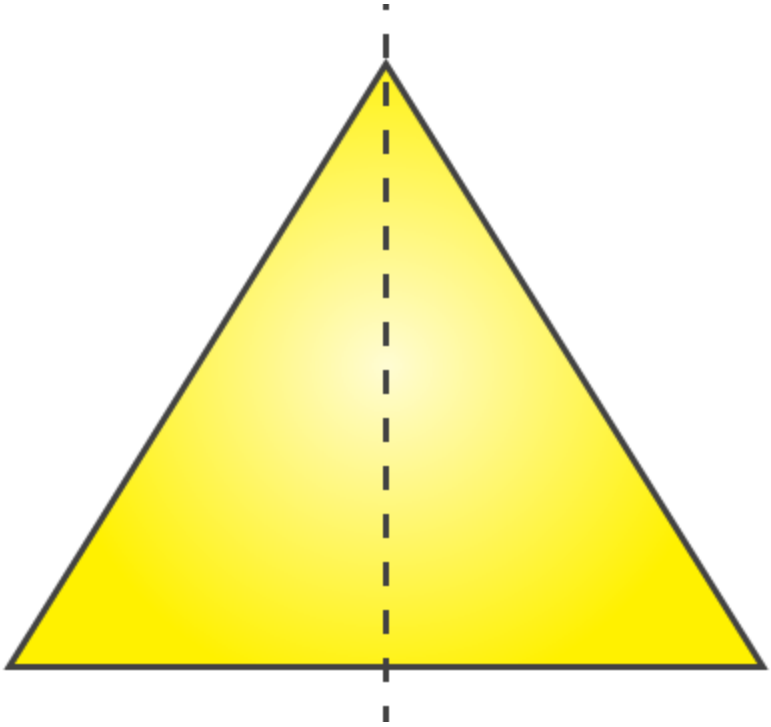
The name of the figure is square.

(b)

Solution:-

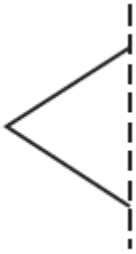
The concept of line of symmetry is closely related to mirror reflection. A shape has line symmetry when one half of it is the mirror image of the other half. A mirror line, thus helps to visualise a line of symmetry.

While dealing with mirror reflection, care is needed to note down the left-right changes in the orientation.



The name of the figure is triangle.

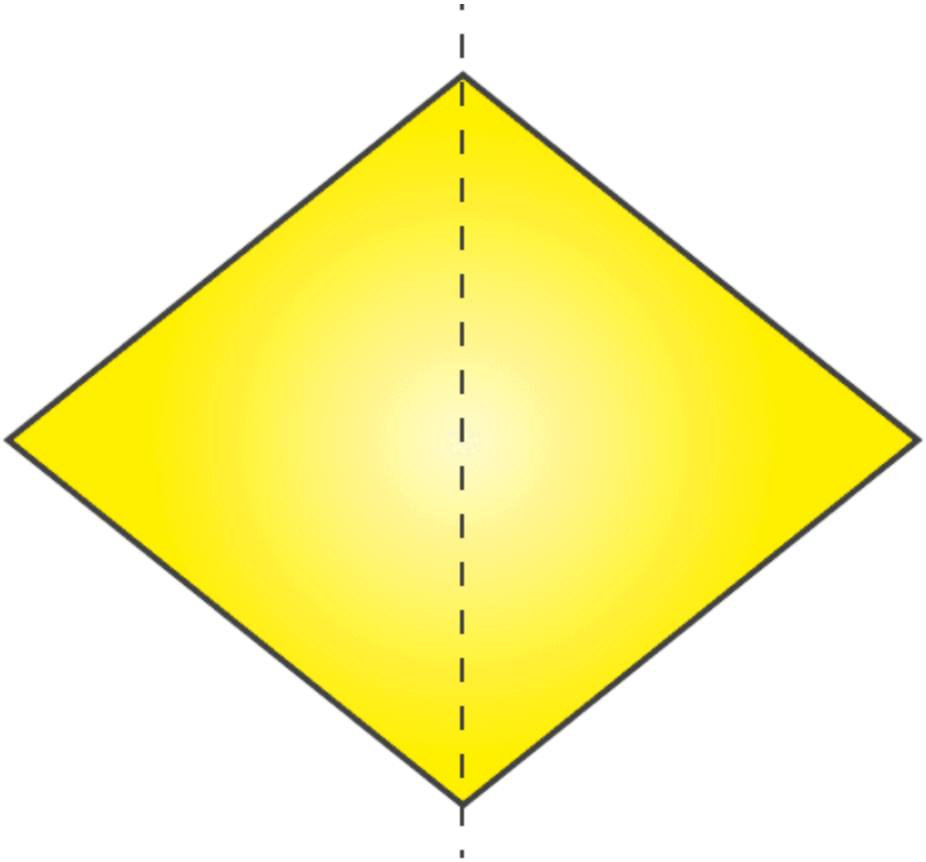
(c)



Solution:-

The concept of line of symmetry is closely related to mirror reflection. A shape has line symmetry when one half of it is the mirror image of the other half. A mirror line, thus helps to visualise a line of symmetry.

While dealing with mirror reflection, care is needed to note down the left-right changes in the orientation.



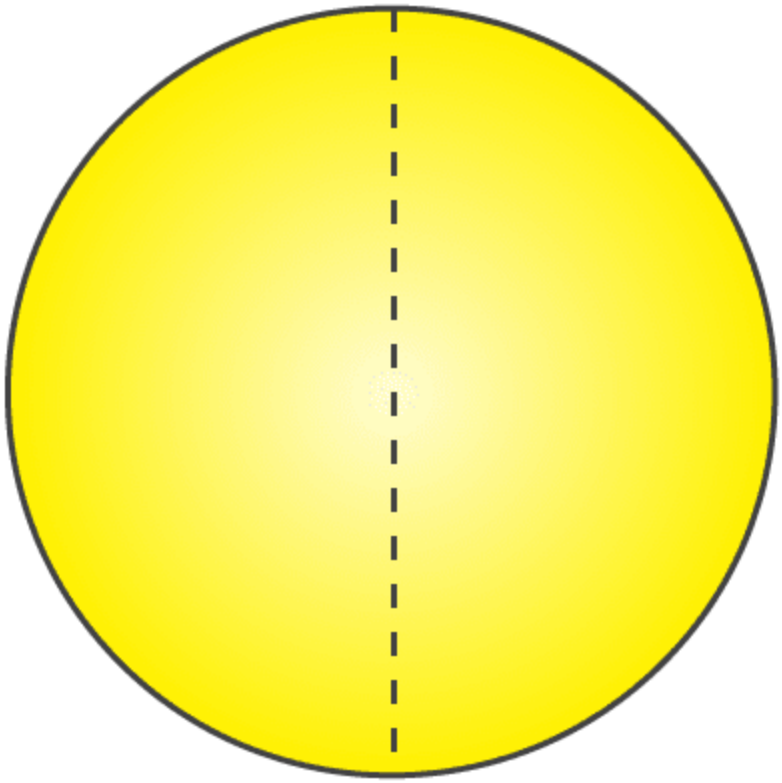
The name of the figure is rhombus.

(d)

Solution:-

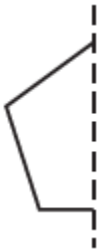
The concept of line of symmetry is closely related to mirror reflection. A shape has line symmetry when one half of it is the mirror image of the other half. A mirror line, thus helps to visualise a line of symmetry.

While dealing with mirror reflection, care is needed to note down the left-right changes in the orientation.



The name of the figure is circle.

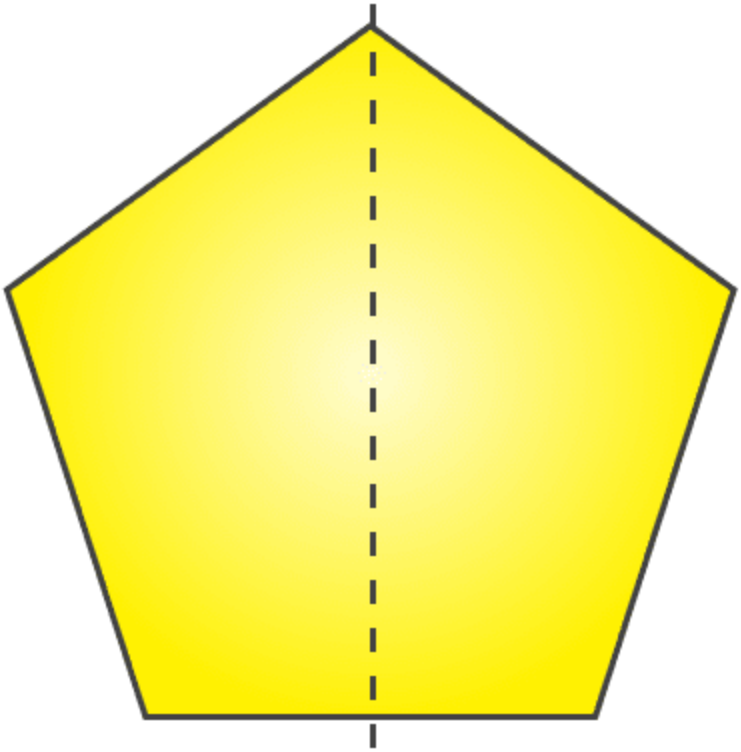
(e)



Solution:-

The concept of line of symmetry is closely related to mirror reflection. A shape has line symmetry when one half of it is the mirror image of the other half. A mirror line, thus helps to visualise a line of symmetry.

While dealing with mirror reflection, care is needed to note down the left-right changes in the orientation.



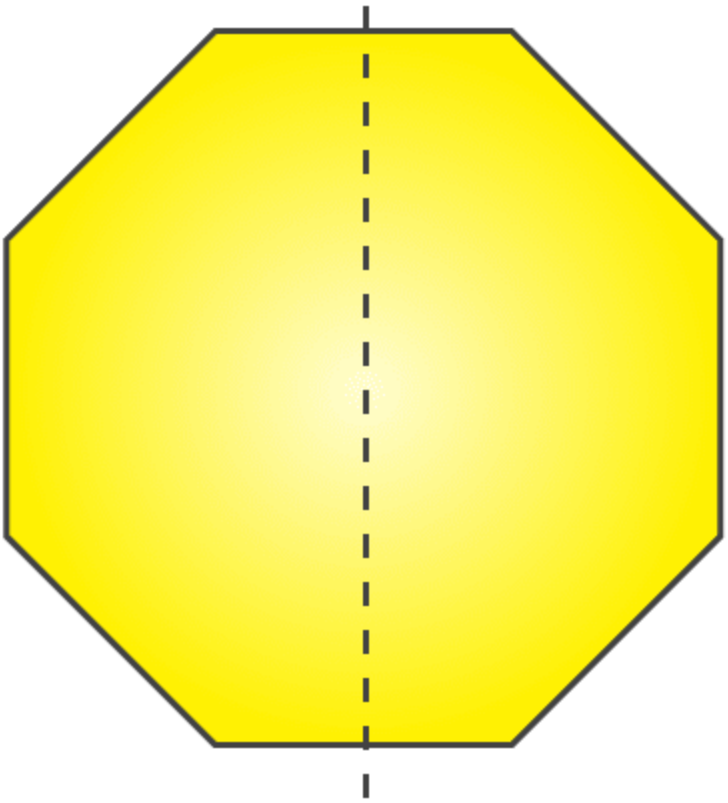
The name of the figure is pentagon.

(f)

Solution:-

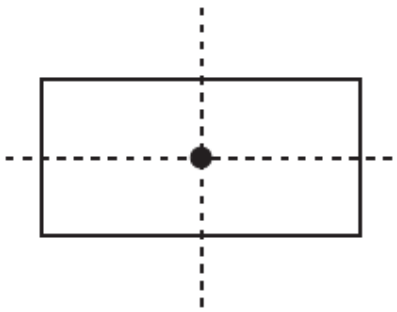
The concept of line of symmetry is closely related to mirror reflection. A shape has line symmetry when one half of it is the mirror image of the other half. A mirror line, thus helps to visualise a line of symmetry.

While dealing with mirror reflection, care is needed to note down the left-right changes in the orientation.

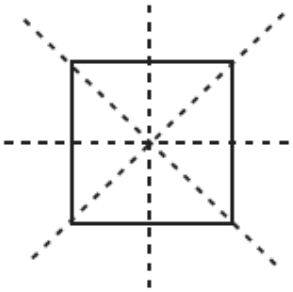


The name of the figure is octagon.

4. The following figures have more than one line of symmetry. Such figures are said to have multiple lines of symmetry.



(a)



(b)

(c)

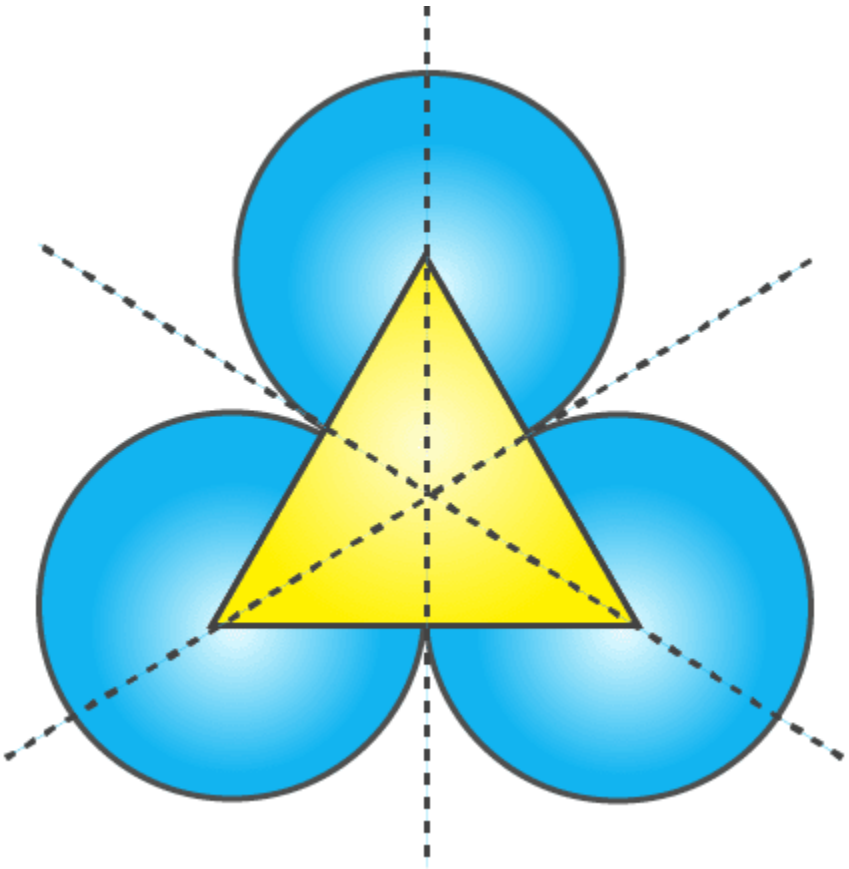
Identify multiple lines of symmetry, if any, in each of the following figures:

(a)

Solution:-

The figure given has 3 lines of symmetry.

So, it has multiple lines of symmetry.

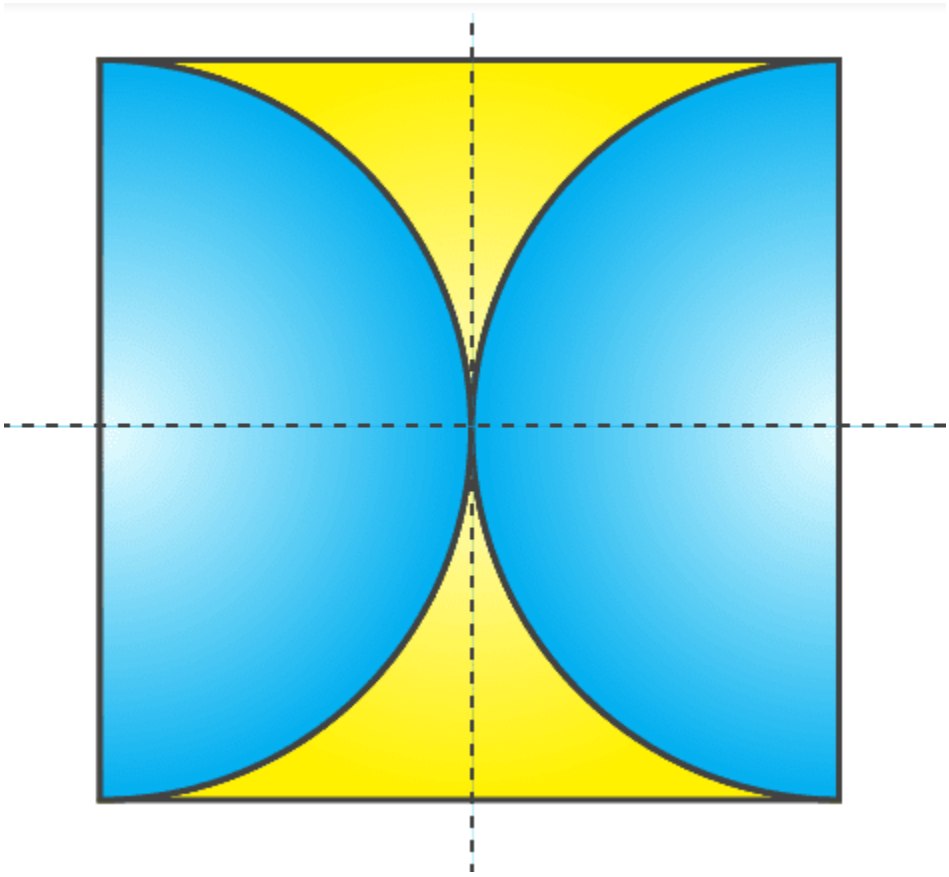


(b)

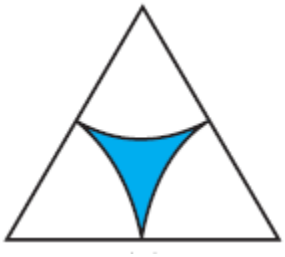
Solution:-

The figure given has 2 lines of symmetry.

So, it has multiple lines of symmetry.



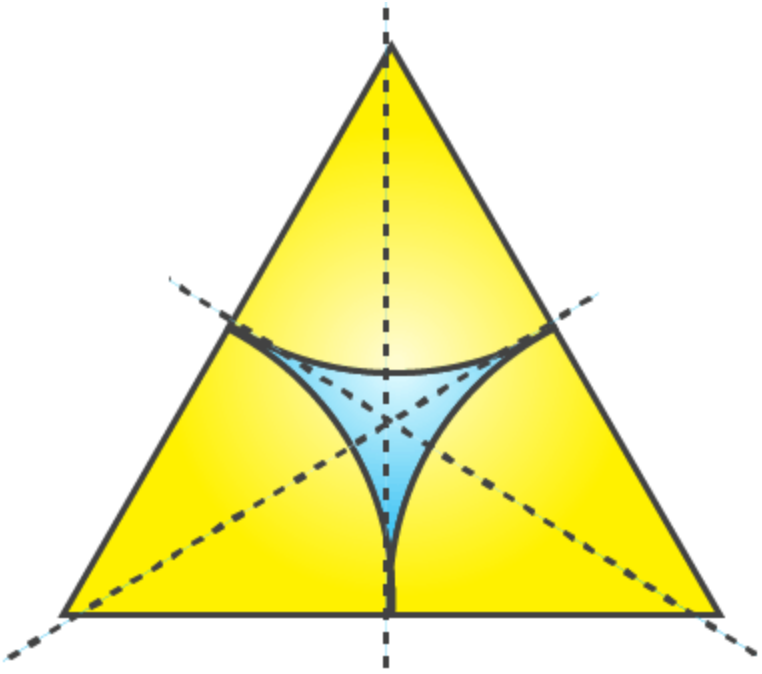
(c)



Solution:-

The figure given has 3 lines of symmetry.

So, it has multiple lines of symmetry.

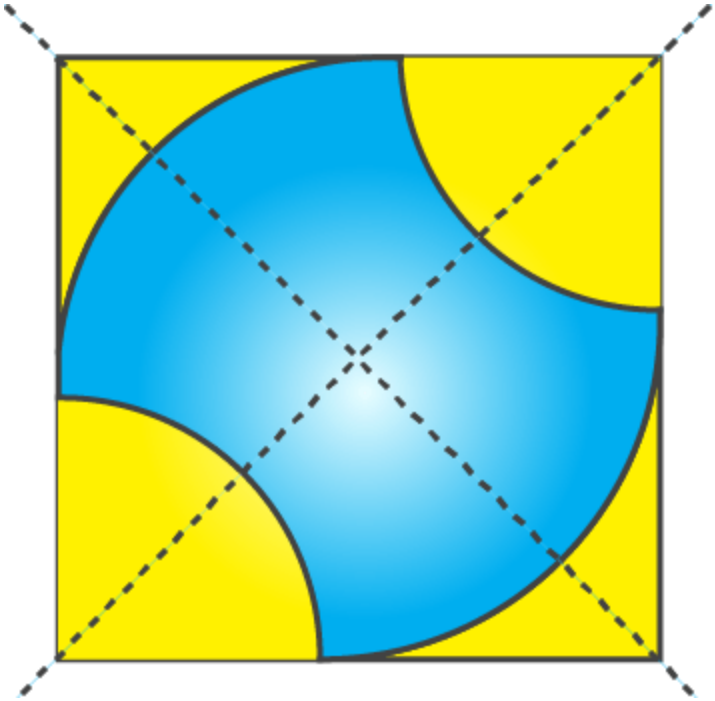


(d)

Solution:-

The figure given has 2 lines of symmetry.

So, it has multiple lines of symmetry.

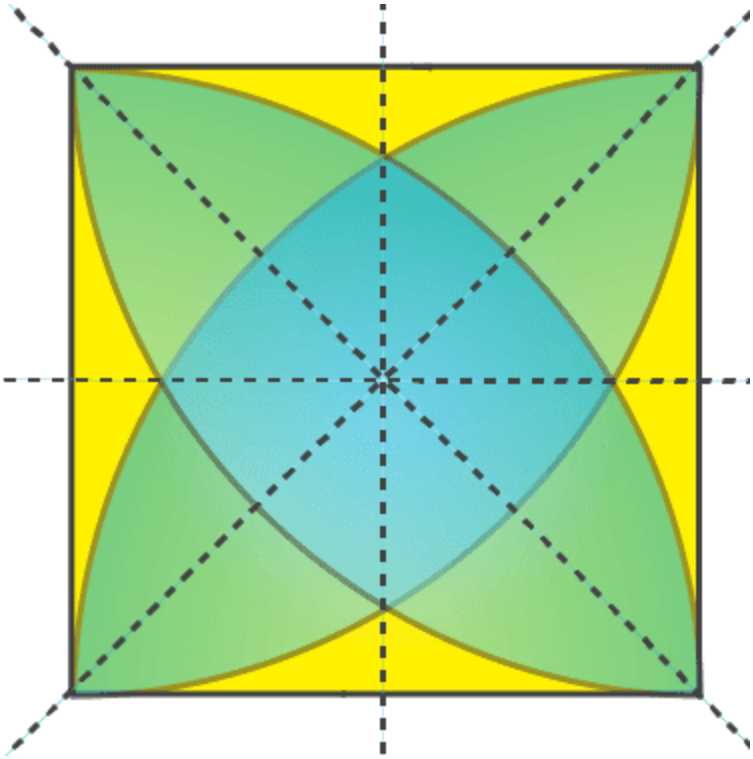


(e)

Solution:-

The figure given has 4 lines of symmetry.

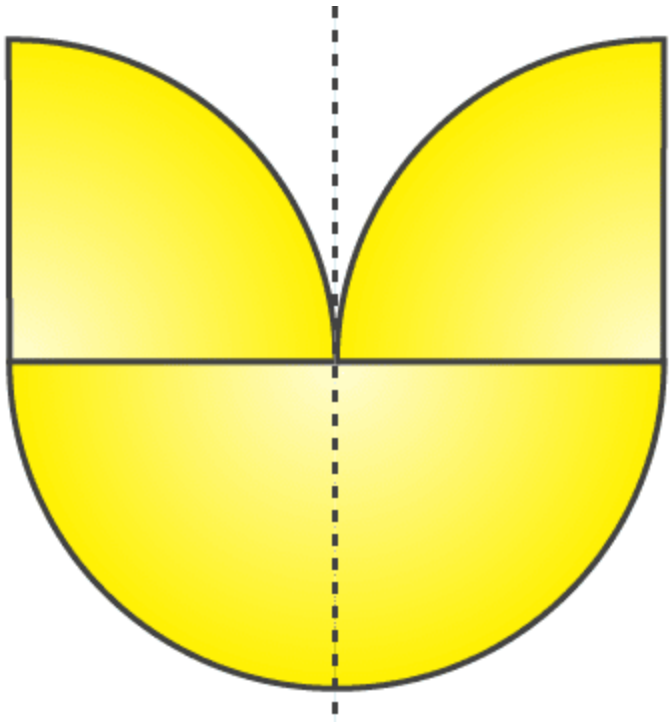
So, it has multiple lines of symmetry.



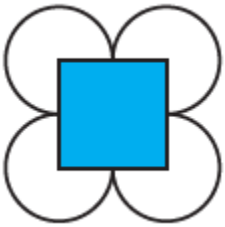
(f)

Solution:-

The figure given has only 1 line of symmetry.



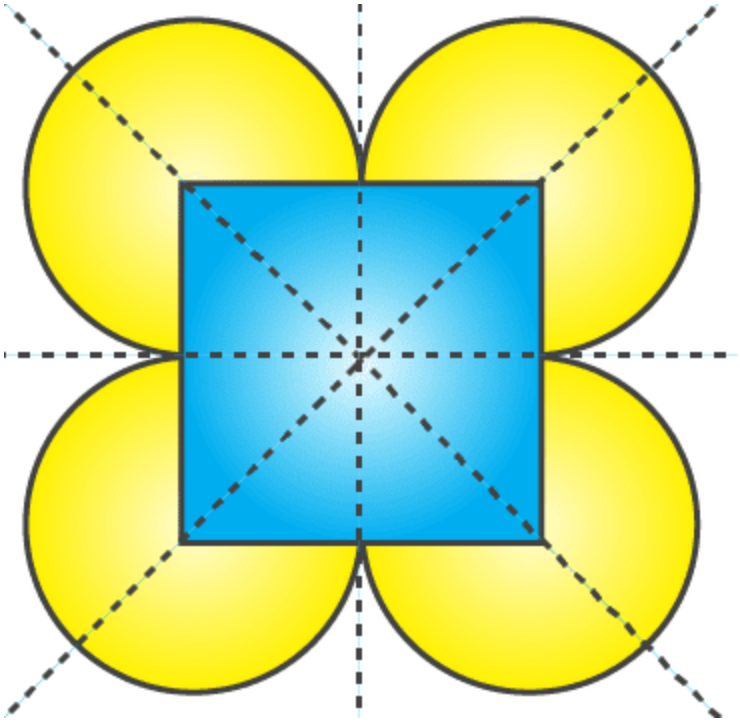
(g)



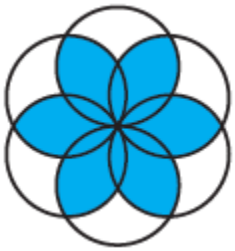
Solution:-

The figure given has 4 lines of symmetry.

So, it has multiple lines of symmetry.



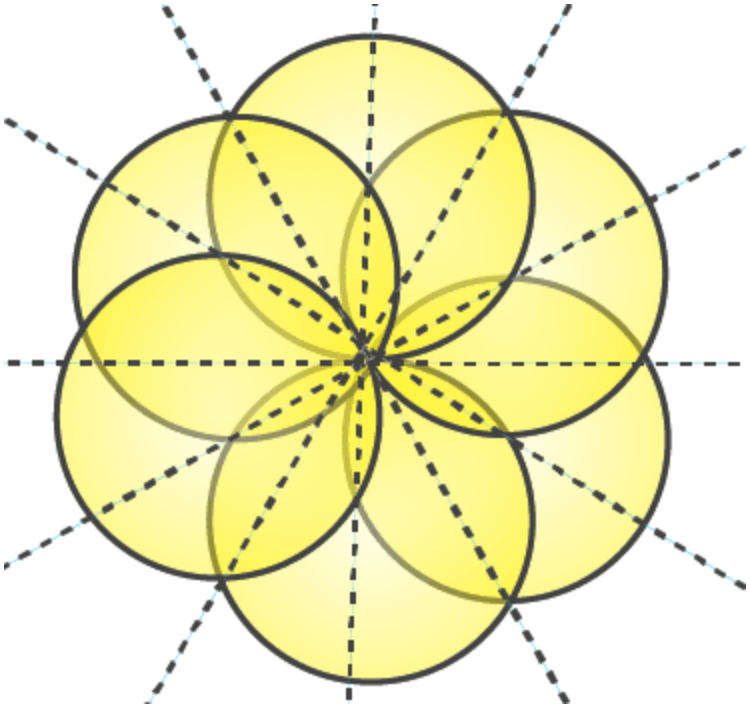
(h)



Solution:-

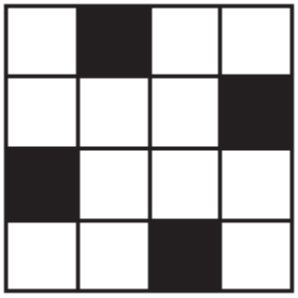
The figure given has 6 lines of symmetry.

So, it has multiple lines of symmetry.

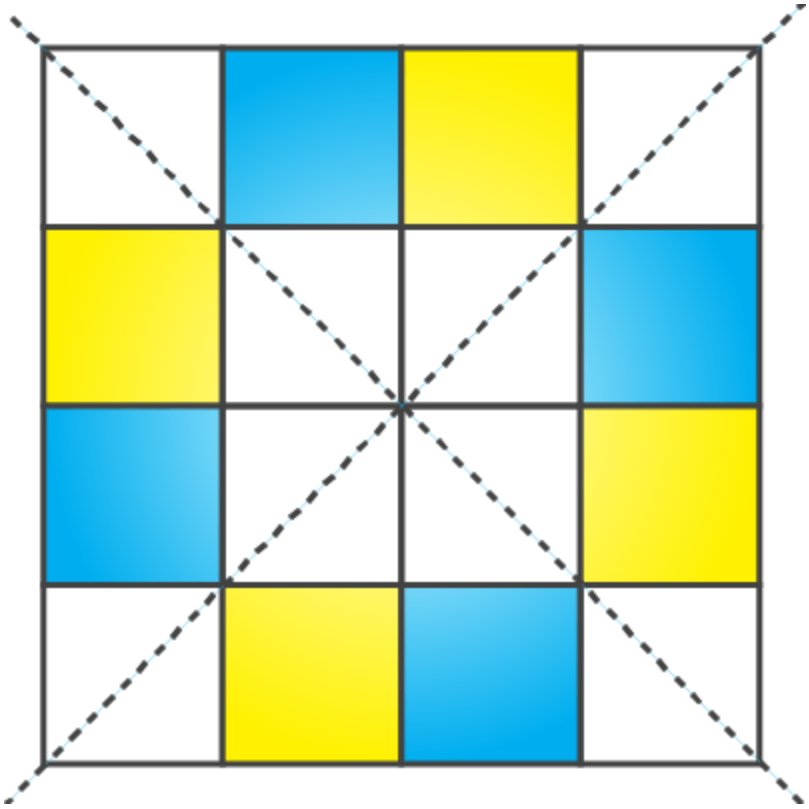


5. Copy the figure given here.

Take any one diagonal as a line of symmetry and shade a few more squares to make the figure symmetric about a diagonal. Is there more than one way to do that? Will the figure be symmetric about both the diagonals?

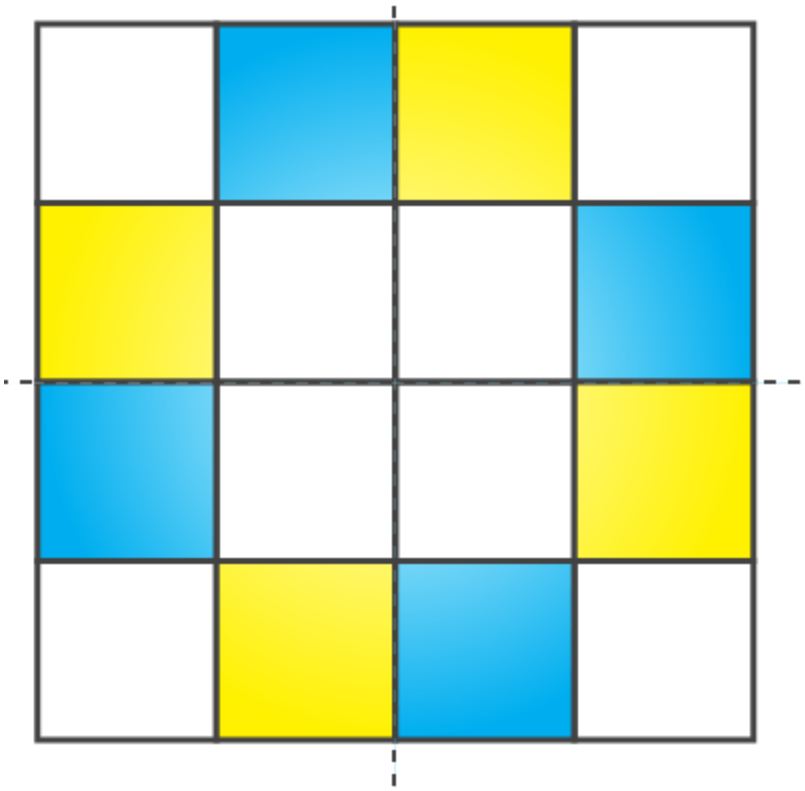


Solution:-



By observing the above figure,

Yes, the figure will be symmetrical about both diagonals.

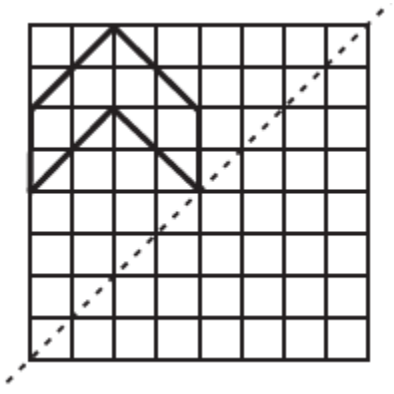


By observing the above figure,

Yes, the figure can be made symmetrical in more than one way.

6. Copy the diagram and complete each shape to be symmetric about the mirror line(s):

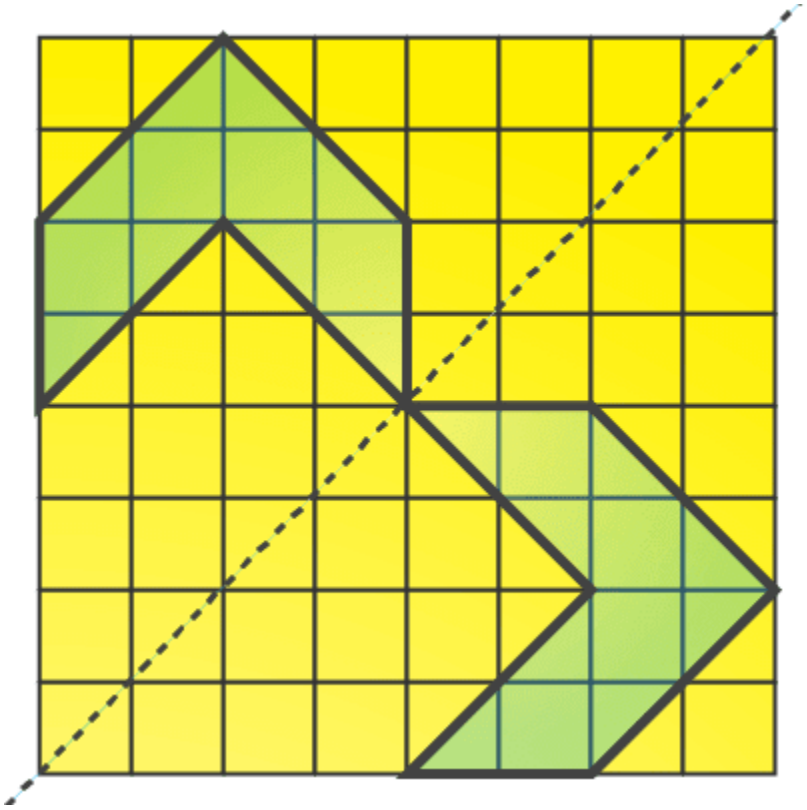
(a)



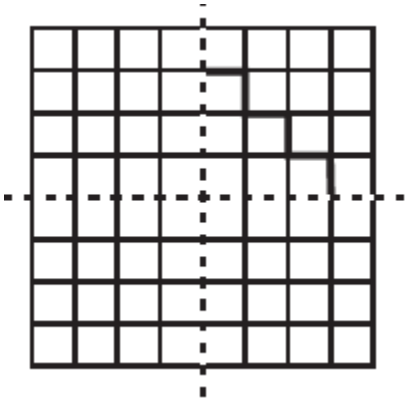
Solution:-

The concept of line of symmetry is closely related to mirror reflection. A shape has line symmetry when one half of it is the mirror image of the other half. A mirror line, thus helps to visualise a line of symmetry.

While dealing with mirror reflection, care is needed to note down the left-right changes in the orientation.



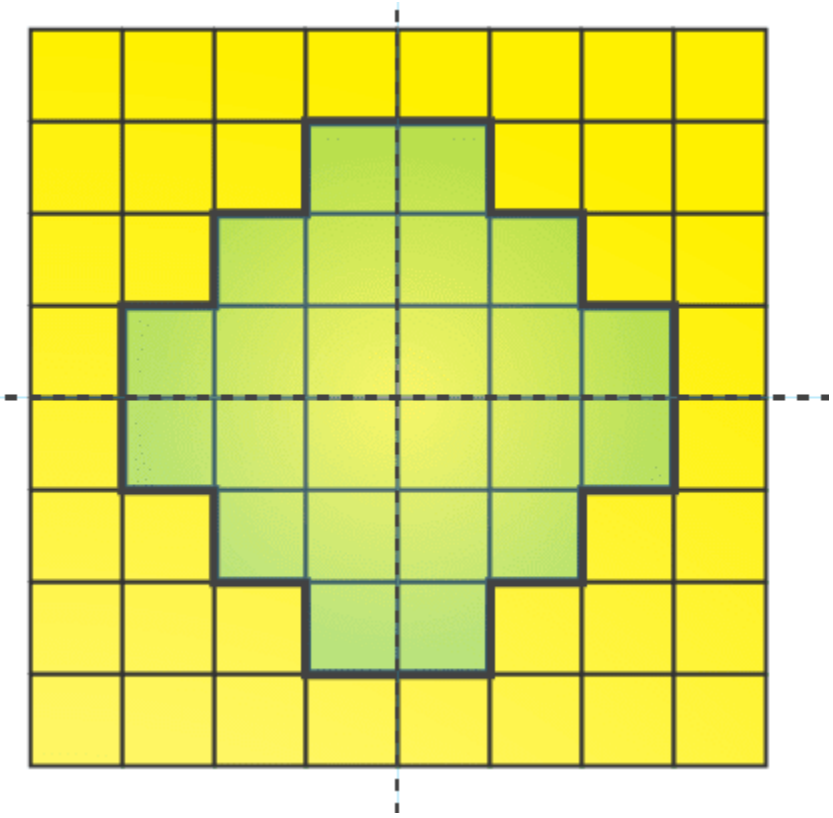
(b)



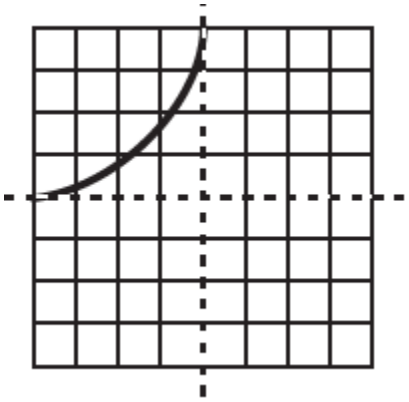
Solution:-

The concept of line of symmetry is closely related to mirror reflection. A shape has line symmetry when one half of it is the mirror image of the other half. A mirror line, thus helps to visualise a line of symmetry.

While dealing with mirror reflection, care is needed to note down the left-right changes in the orientation.



(c)



Solution:-

The concept of line of symmetry is closely related to mirror reflection. A shape has line symmetry when one half of it is the mirror image of the other half. A mirror line, thus helps to visualise a line of symmetry.

While dealing with mirror reflection, care is needed to note down the left-right changes in the orientation.