

MATHEMATICS

Class-7th

Chapter-14

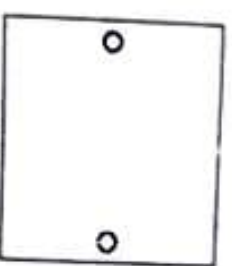
Symmetry

Exercise-14.1

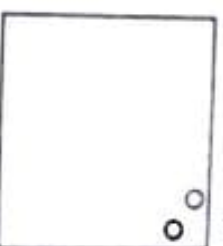
By:-A.K.Jha

EXERCISE 14.1

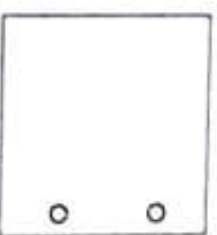
Q.1. Copy the figures with punched holes and find the axes of symmetry for the following:



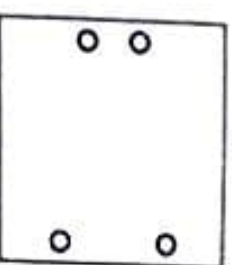
(a)



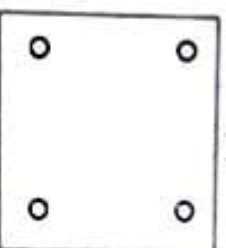
(b)



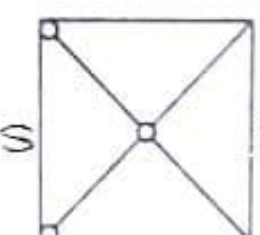
(c)



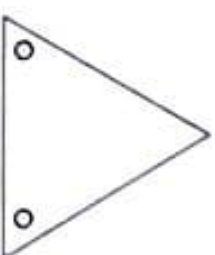
(d)



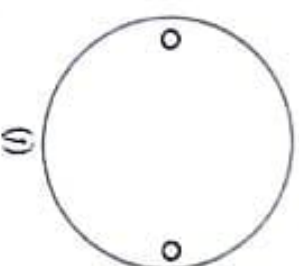
(e)



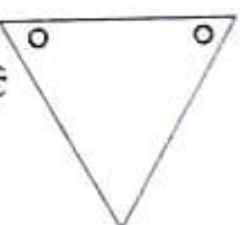
(f)



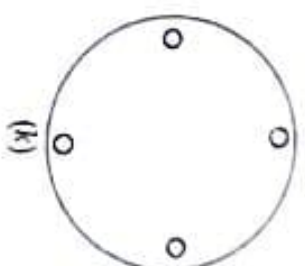
(g)



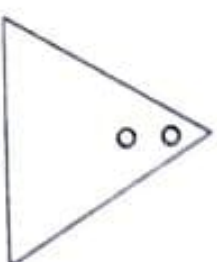
(h)



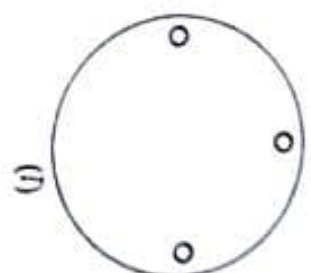
(i)



(j)

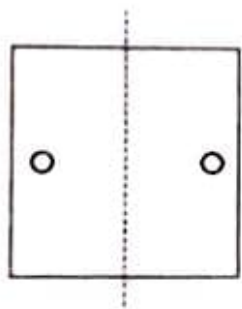


(k)

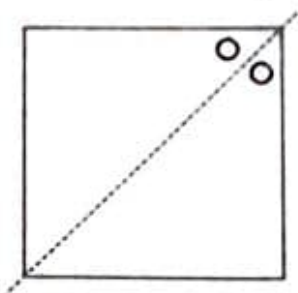


(l)

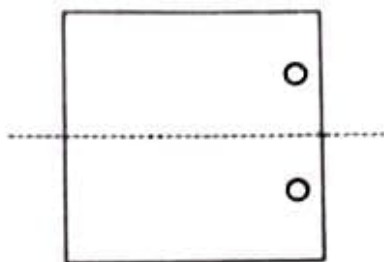
Sol. Each figure is symmetrical and shown by dotted lines and the number of lines of symmetry are written below each figure.



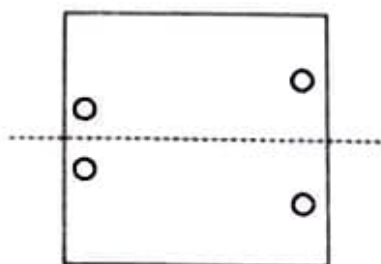
One
(a)



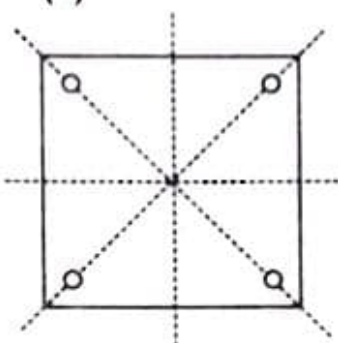
One
(b)



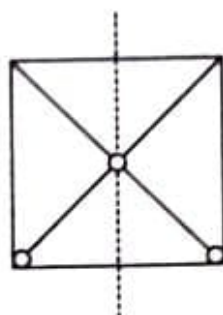
One
(c)



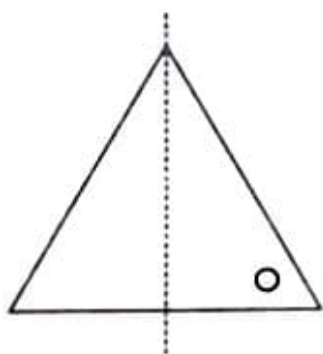
One
(d)



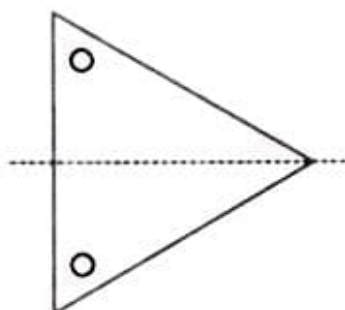
Four
(e)



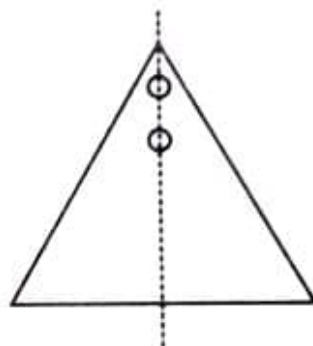
One
(f)



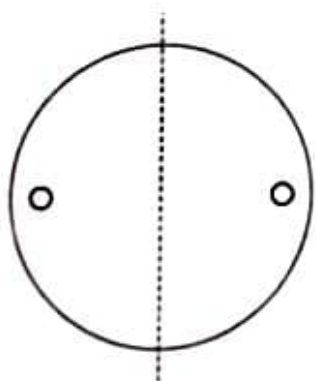
One
(g)



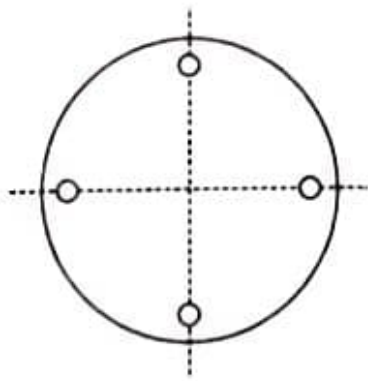
One
(h)



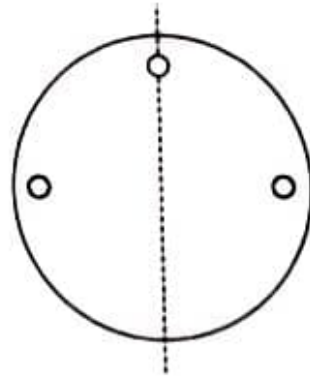
One
(i)



One
(j)

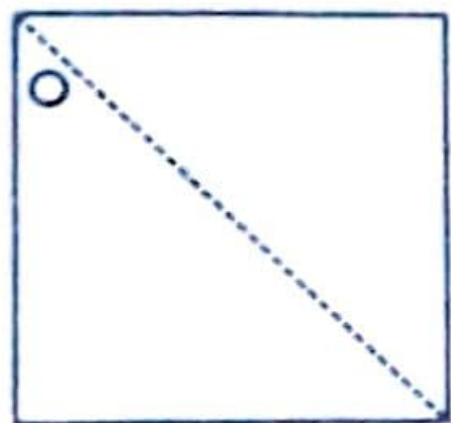


Two
(k)

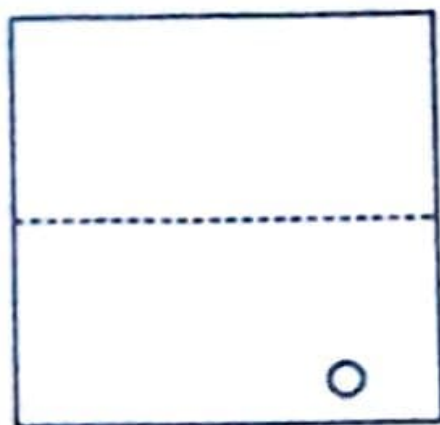


One
(l)

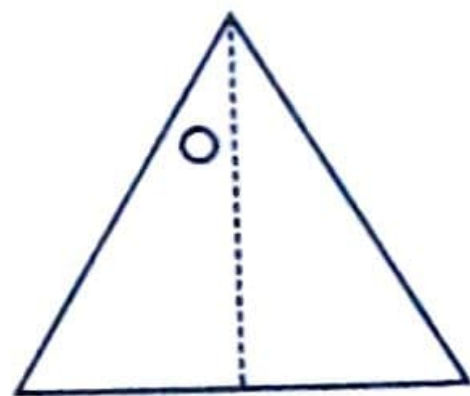
Q. 2. Given the line(s) of symmetry, find the other hole(s):



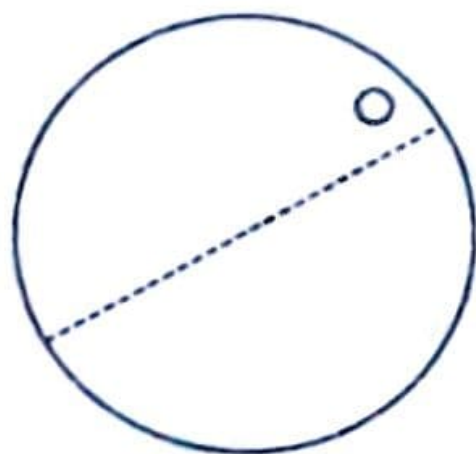
(a)



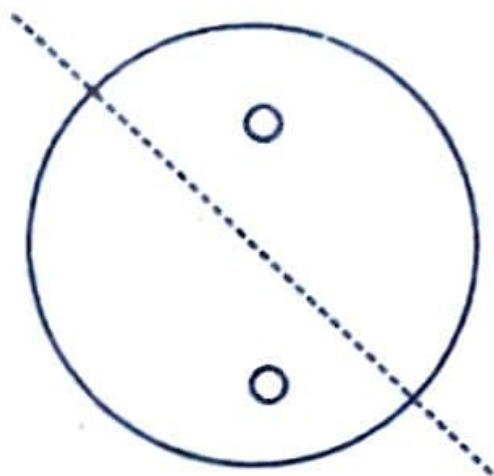
(b)



(c)

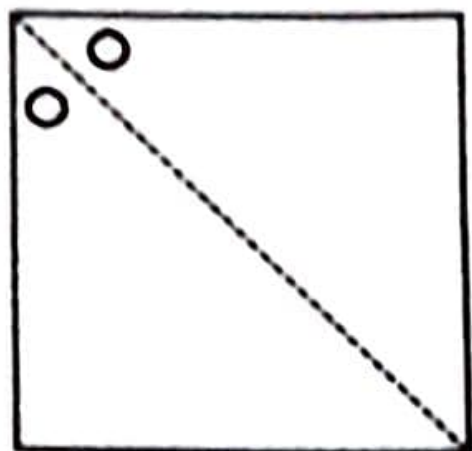


(d)

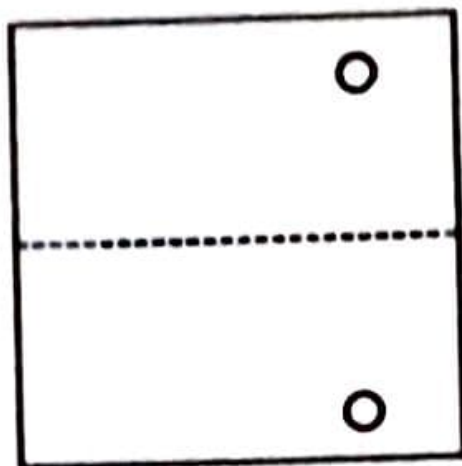


(e)

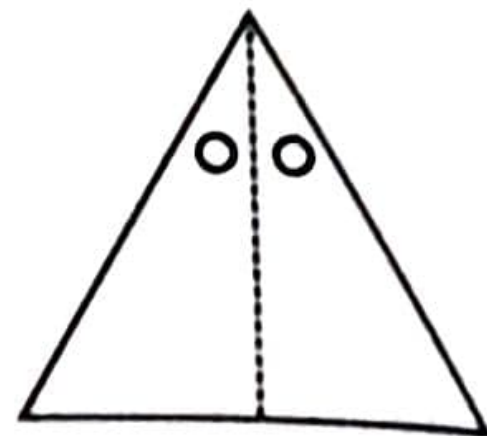
Sol. Each figure is symmetrical and shown by dotted lines and the other holes are shown below in each figure:



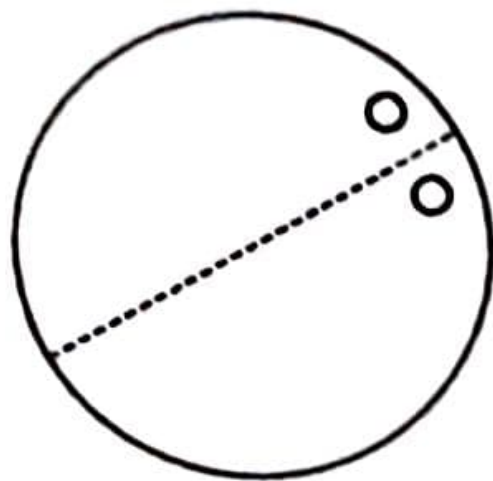
(a)



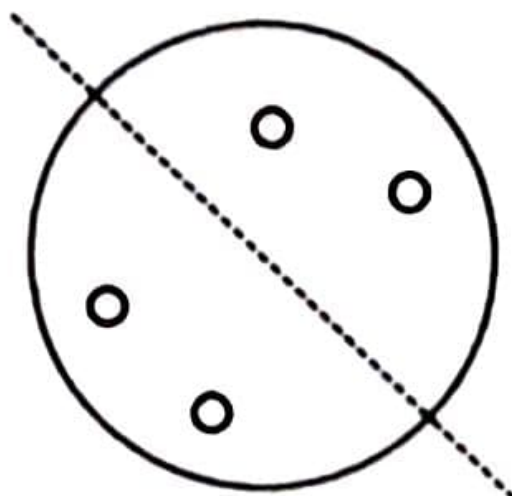
(b)



(c)

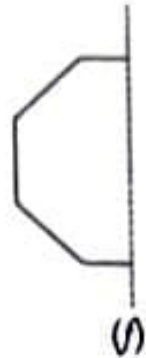


(d)

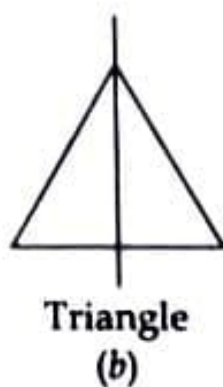
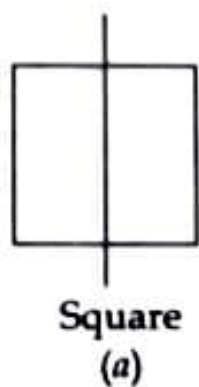


(e)

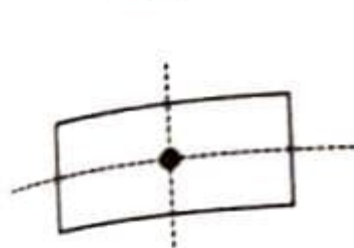
Q.3. In the following figures, the mirror line (i.e., the line of symmetry) is given as a dotted line. Complete each figure performing reflection in the dotted (mirror) line. (You might perhaps place a mirror along the dotted line and look into mirror for the image). Are you able to recall the name of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



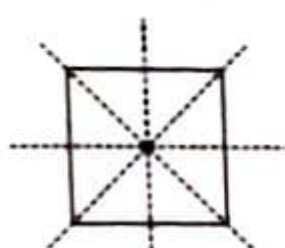
Sol. On completing all of the figures and drawing their lines of symmetry. The name of each figure are written below each figure:



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



(a)

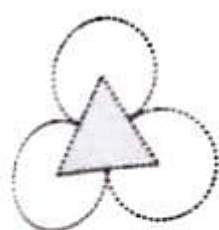


(b)

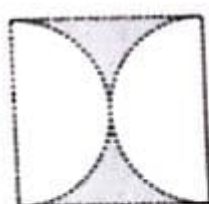


(c)

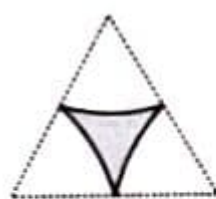
Identify multiple lines of symmetry, if any, in each of the following figures:



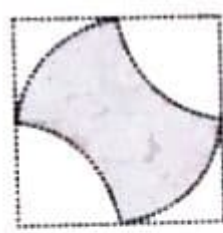
(a)



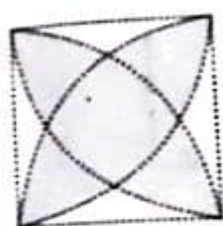
(b)



(c)



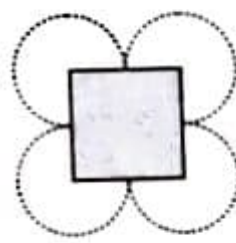
(d)



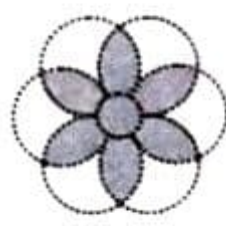
(e)



(f)

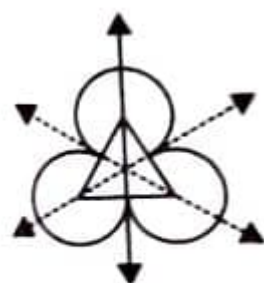


(g)

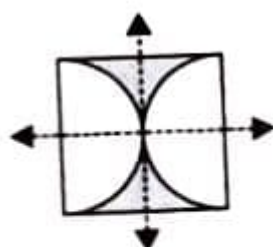


(h)

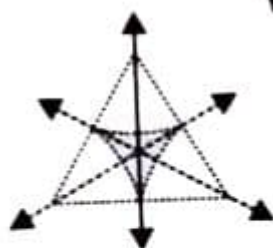
Sol. Multiple lines of symmetry of each figure are shown below:



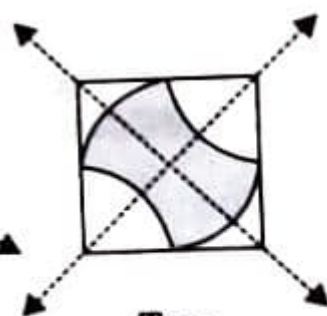
Three
(a)



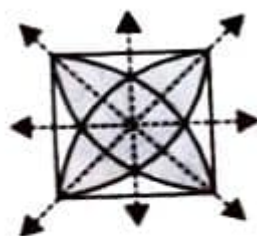
Two
(b)



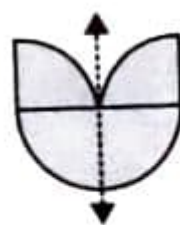
Three
(c)



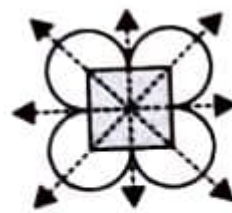
Two
(d)



Four
(e)



One
(f)



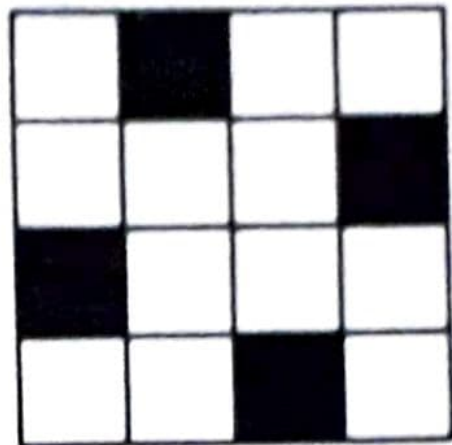
Four
(g)



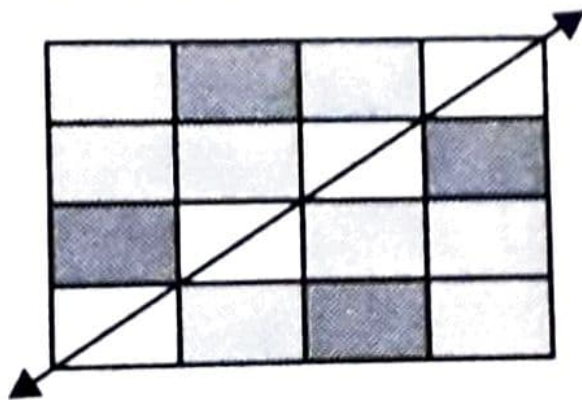
Six
(h)

Q. 5. Copy the figure given here.

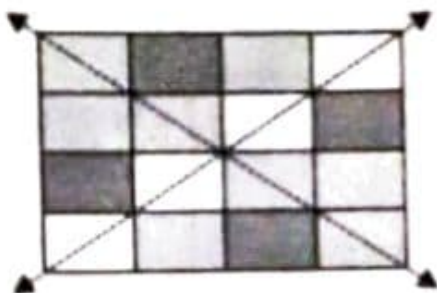
Take any one diagonal as a line of symmetry and shade a few more squares to make the figure symmetric about a diagonal. Is there more than one way to do that? Will the figure be symmetric about both the diagonals?



Sol. On taking one diagonal as a line of symmetry and some more shaded square are shown below:

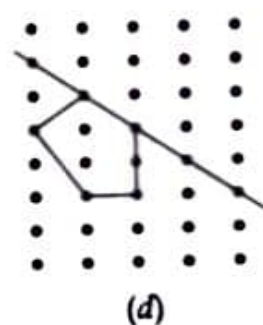
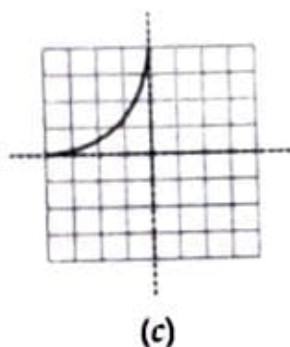
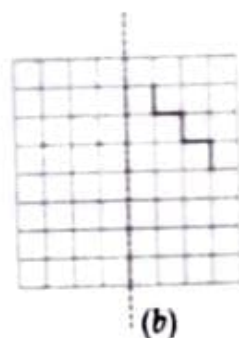
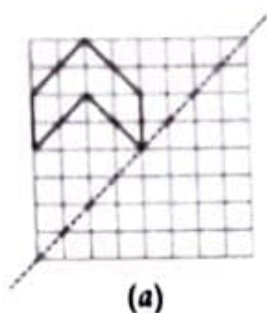


Yes, there is one more way to do that *i.e.*, on taking second diagonal as a line of symmetry.



Yes, the figure will be symmetric about both the diagonals.

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



Sol. On completing all the figures and drawing their lines of symmetry as shown below:

