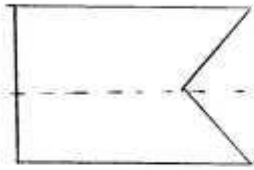


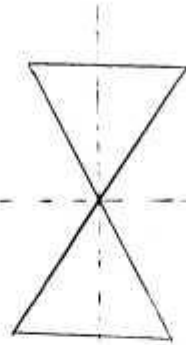
# Symmetry

## EXERCISE: 14.1

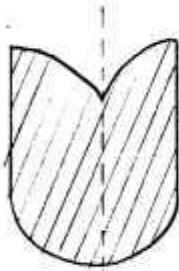
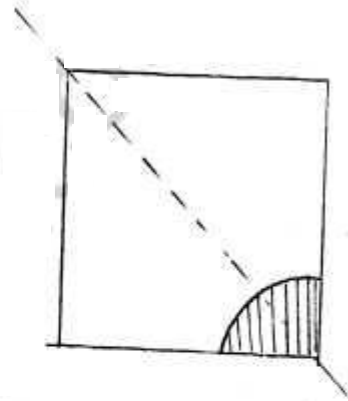
1.



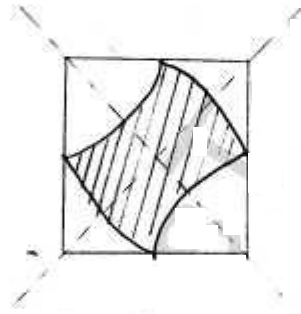
(i)



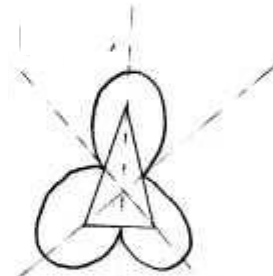
(ii)



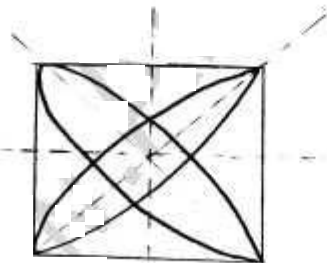
(iv)



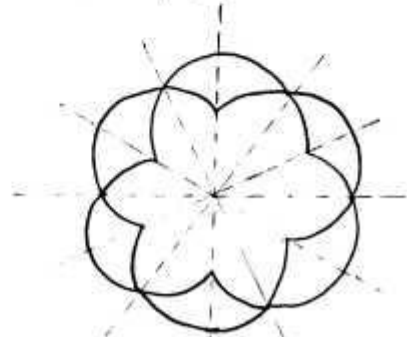
(v)



(vi)

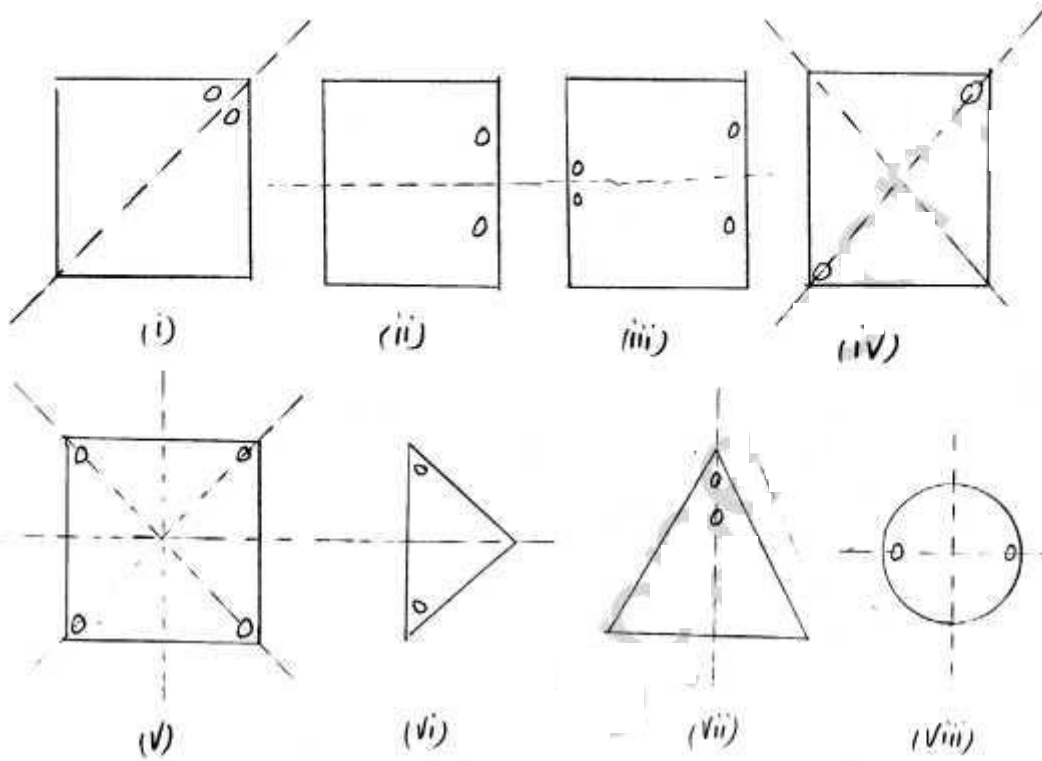


(vii)

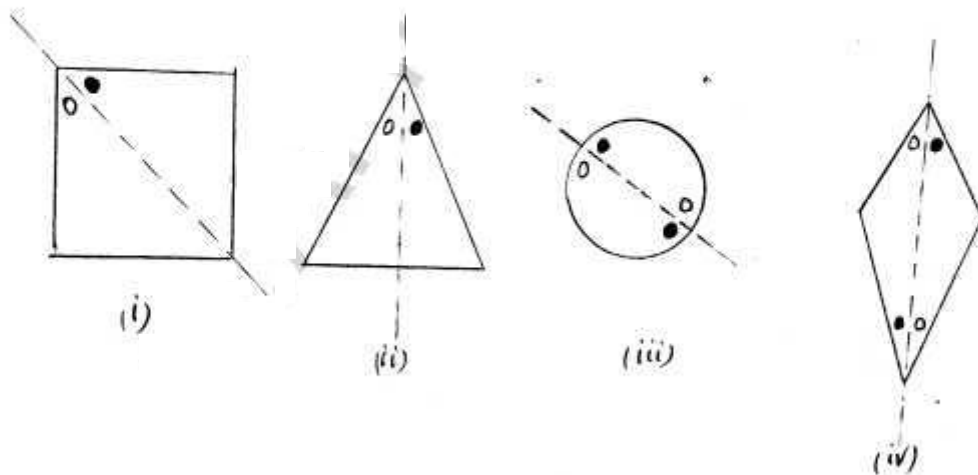


(viii)

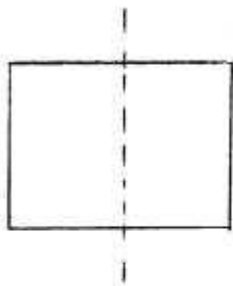
2. Axes of symmetry are shown dotted-lines



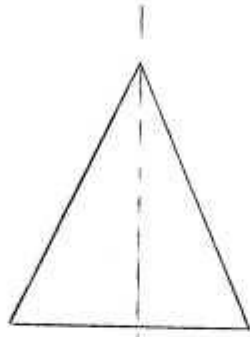
3. The missing holes are marked by dark punches (small circles)



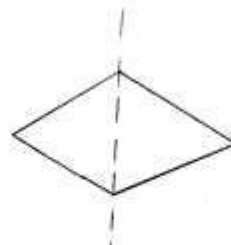
4.



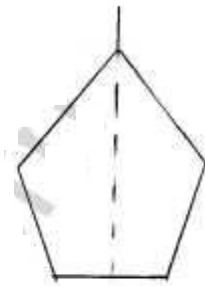
(i) Rectangle



(ii) isosceles Triangle



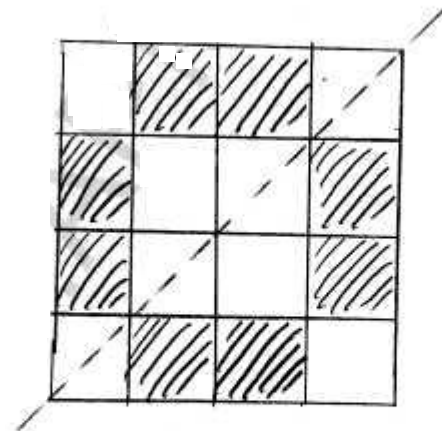
(iii) Rhombus



(iv) pentagon

5. We get the symmetry if we shade according to the other diagonal with the same figure.

Also we get the same figure if we shade by taking the lines joining mid points of opposite sides. Yes the figure is symmetrical about both diagonals



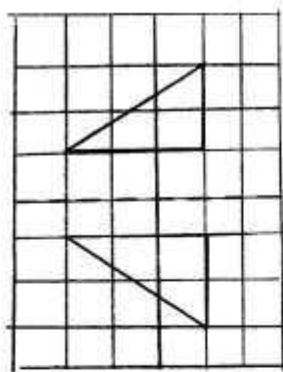
7.

i) angle bisector or median

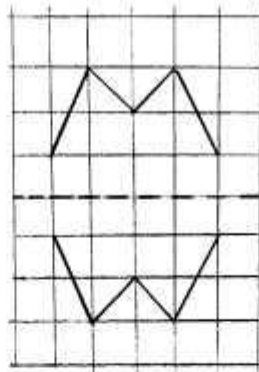
iii) Diameter of circle

ii) diagonal

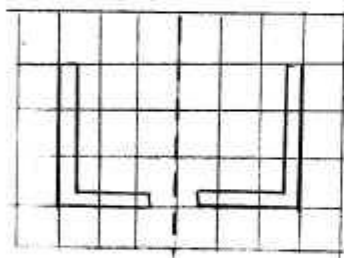
6.



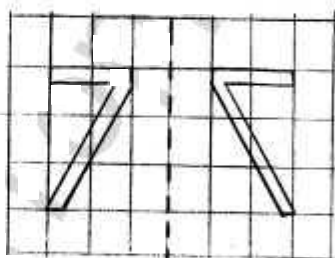
(i)



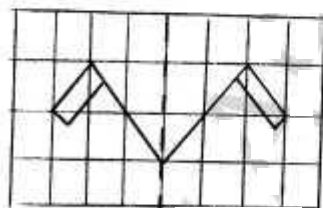
(ii)



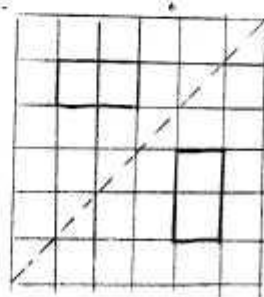
(iii)



(iv)



(v)



(vi)

## EXERCISE: 14.2

1.

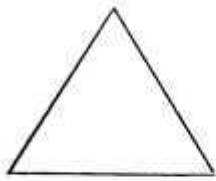
- i) Rotational symmetry of order 2
- ii) Rotational symmetry of order 2
- iii) No, rotational symmetry
- iv) Rotational symmetry of order 2
- v) No rotational symmetry.
- vi) Rotational symmetry of order 4
- vii) Rotational symmetry of order 4.
- viii) No rotational symmetry.
- ix) Rotational symmetry of order 2
- x) Rotational symmetry of order 4
- xi) Rotational symmetry of order 6.
- xii) Rotational symmetry of order 4

2. (i) and (iv) have rotational symmetry of order greater than 1.

3 Rhombus and equilateral triangle have both line of symmetry and rotational symmetry.

4. Rectangle, Rhombus and Square have both line of symmetry and rotational symmetry of order more than 1

5.



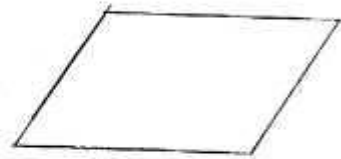
i) Equilateral Triangle



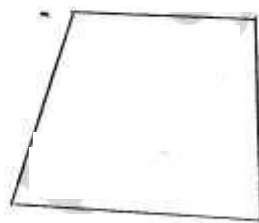
(ii) Isosceles Triangle



(iii) Scalene Triangle



(iv) Parallelogram



v) Isosceles Trapezium

6, Yes, the figure having more than two lines of symmetry it will have rotational symmetry of order more than 1

Ex: Rectangle, Square

7.  $120^\circ, 180^\circ, 240^\circ, 300^\circ, 360^\circ$

i) 144, 216, 288 and  $360^\circ$

ii)  $90^\circ, 135^\circ, 180^\circ, 225^\circ, 270^\circ, 315^\circ$  and  $360^\circ$

iii) Angle of rotation of  $58^\circ$  is not possible

8

i) Yes, i.e.  $180$  and  $360^\circ$

ii) Yes i.e.  $120, 240$  and  $360^\circ$

iii) Yes i.e.  $90, 180, 270$  and  $360^\circ$

iv) Yes i.e.  $30, 60, 90, 120, 150, 180, 210, 240, 270, 300, 330, 360^\circ$

v) Yes i.e.  $15, 30, 45, 60, 75, 90, 105, 120, 135, 150, 165, 180, 195, 210, 225, 240, 255, 270, 285, 300, 315, 330, 345, 360^\circ$

vi) No,