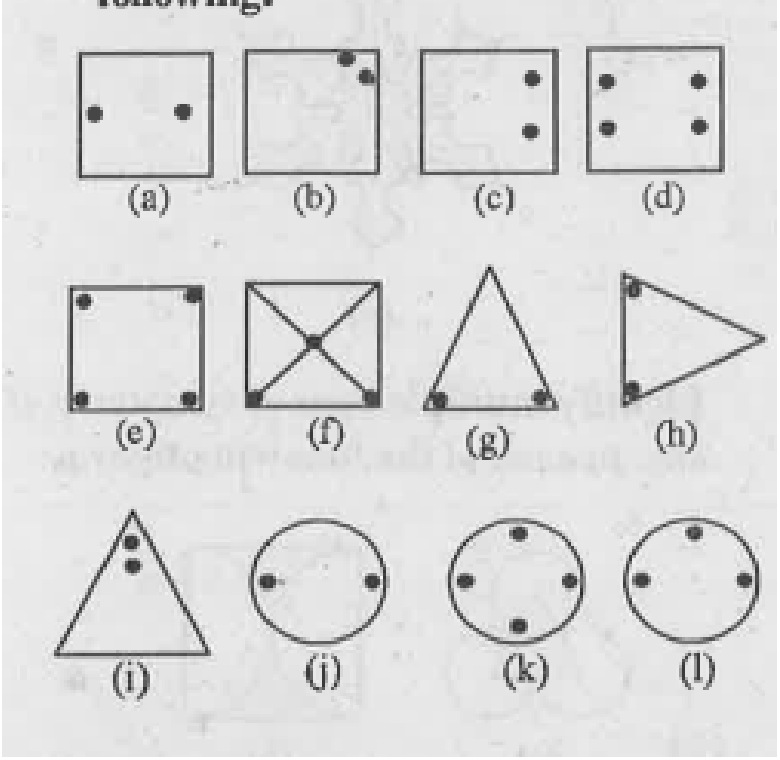
MATHS

BOOKS - SUBHASH PUBLICATION

SYMMETARY

Example

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



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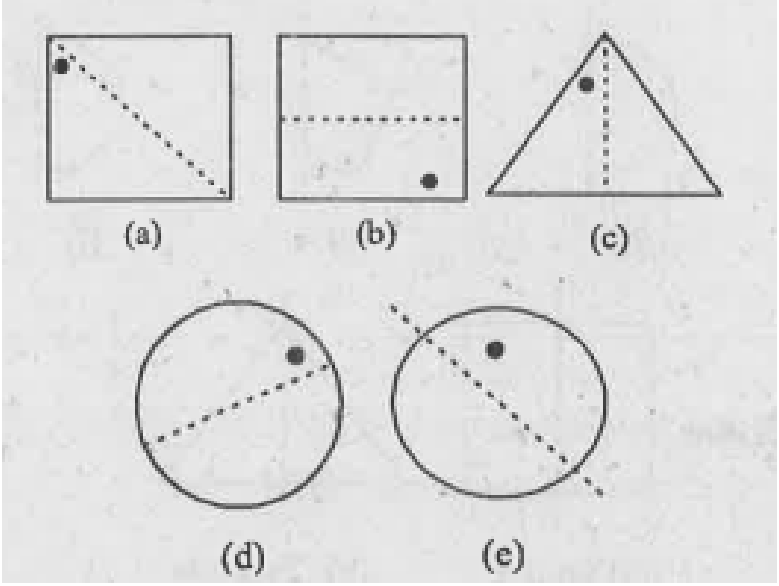
2. Give the line (s) of symmetery, find the other hole(s):



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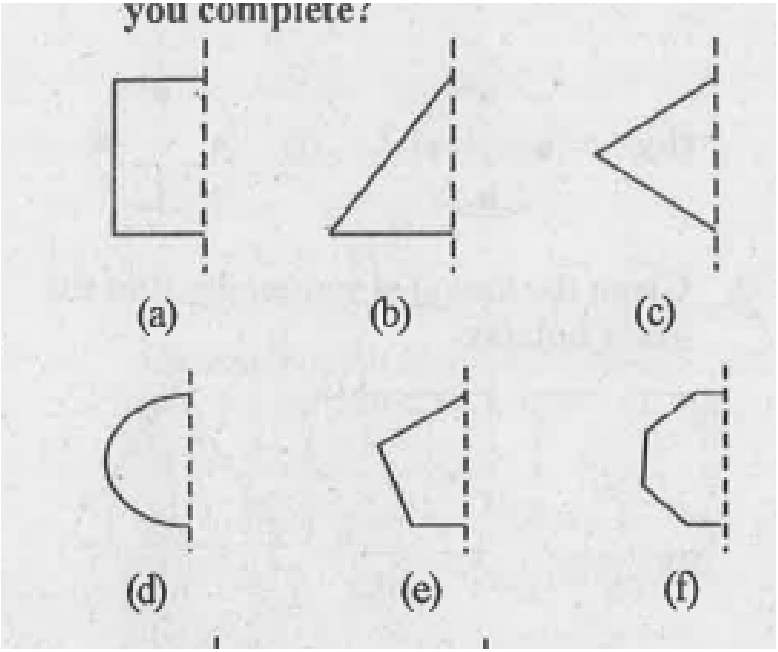
3. In the following figures, the mirror line (i.e., the line of symmetry) is given as a dotted line. Complete each figure performing reflection in the dotted (mirror) line. (You might perhaps

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?



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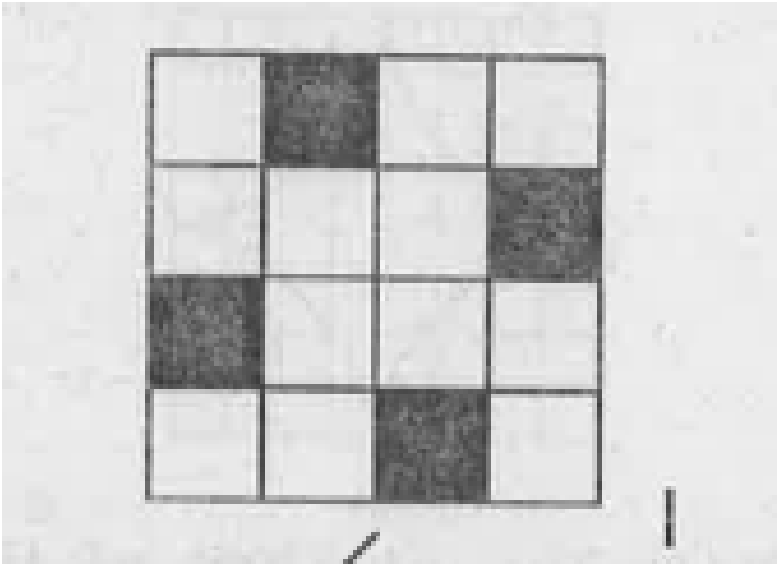
4. Copy the figure given here. Take any one diagonal as a line of symmetry and shade a few more squares to make the figure symmetric about a diagonal. Is there more than one way to do that? Will the figure be symmetric about both the diagonals:



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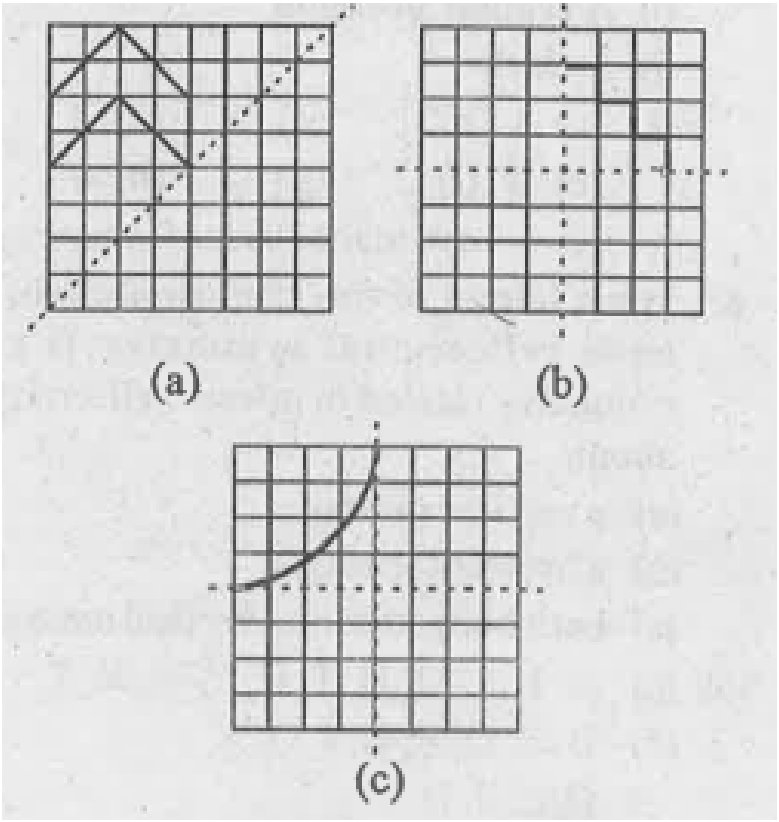
5. Copy the diagram and complete each shape to be symmetric about the mirror line (s):



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6. State the number of lines of symmetry for the following figures: An equilateral triangle.

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7. State the number of lines of symmetry for the following figures: An isosceles triangle

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8. State the number of lines of symmetry for the following figures: A scalene triangle

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9. State the number of lines of symmetry for the following figures: A square

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10. State the number of lines of symmetry for the followign figures: A rectangle

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11. State the number of lines of symmetry for the followign figures: A rhombus

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12. State the number of lines of symmetry for the following figures: A parallelogram

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13. State the number of lines of symmetry for the followign figures: A quadrilateral

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14. State the number of lines of symmetry for the followign figures: A regular hexagon

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15. State the number of lines of symmetry for the followign figures: A circle

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16. What letters of the English alphabet have reflectional symmetry (i.e., symmetry related to mirror reflection) about: a vertical mirror

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17. What letters of the English alphabet have reflectional symmetry (i.e., symmetry related to mirror reflection) about: a horizontal mirror

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18. What letters of the English alphabet have reflectional symmetry (i.e., symmetry related to mirror reflection) about: both horizontal and vertical mirrors

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19. Give three examples of shapes with no line of symmetry.

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20. What other name can you give to the line of symmetery of : an isosceles traingle?

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21. What other name can you give to the line of symmetery of : a circle?

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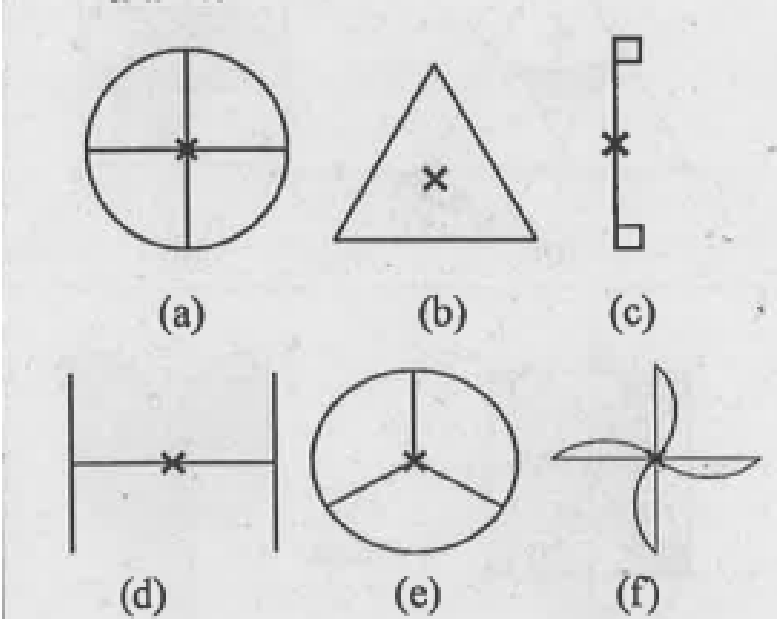
22. Which of the following figures have rotational symmetry of order more than 1:



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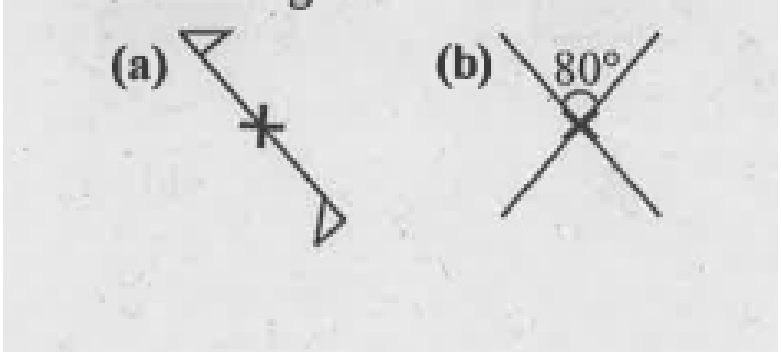
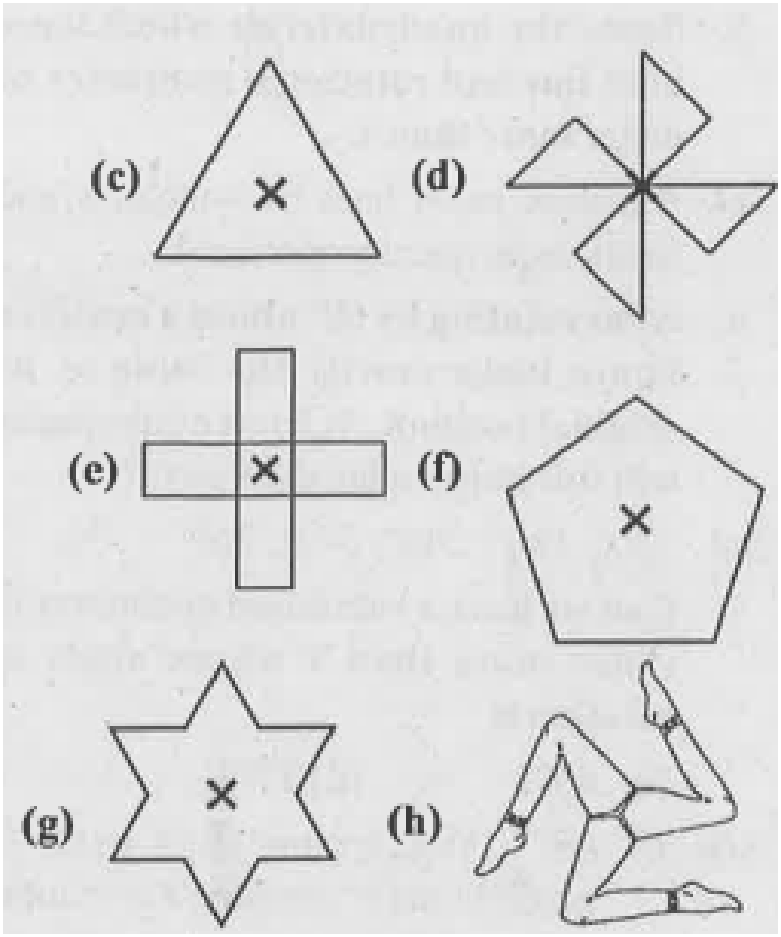
23. Give the order of rotational symmetry for each figure:





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24. Name any two figures that have both line symmetry and rotational symmetry.

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25. Draw, wherever possible, a rough sketch of : a trangle with both line and rotational symmetry of order more than 1.

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26. Draw, wherever possible, a rough sketch of : a triangle with only line symmetry and no rotational symmetry of order more than 1.

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27. Draw, wherever possible, a rough sketch of : a quadrillateral with a rotational symmetry of order more than 1 but not a line symmetry.

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28. Draw, wherever possible, a rough sketch of : a quadrilateral with line symmetry but not a rotatinal symmetry of order more then 1.

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29. If a figure has two or more lines of symmetry, should it have rotatinal symmetry of order more than 1?

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30. Fill in the blanks:

Shape	Centre of Rotation	Order of Rotation	Angle of Rotation
Square			
Rectangle			
Rhombus			
Equilateral Triangle			
Regular Hexagon			
Circle			
Semi-circle			

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31. Name the quadrilaterals which have both line and rotational symmetry of order more than 1.

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32. After rotating by 60^o about a centre, a figure looks exactly the same as its original possition. At what other angles will this happen for the figure?

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33. Can we have a rotational symmetry of order more than 1 whose angle of rotation is :

45^o

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34. Can we have a rotational symmetry of order more than 1 whose angel of rotation is : 17^o

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