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MATHS

NCERT - NCERT Mathematics(English)

SYMMETRY

Exercise 14 3

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

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2. Draw, whenever possible, a rough sketch of A triangle with both line and rotational symmetries.

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

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4. Can we have a rotational symmetry of order more than 1 whose angle of rotation is (i) 45° (ii) 17°

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

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

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Exercise 14 1

1. What other name can give to the line of symmetry of (i) An isosceles triangle? (ii) A circle?

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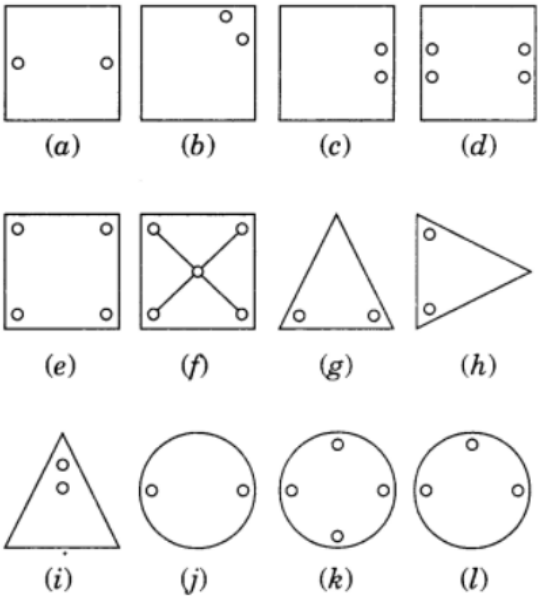
2. Copy the figures with punched holes and find the axes of symmetry for the following:



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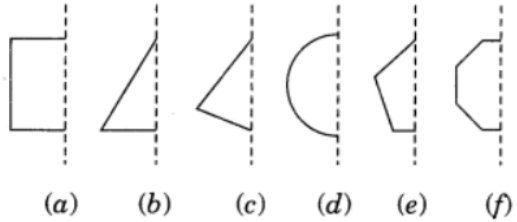
3. In the following figures, the mirror line (i.e., the line of symmetry) is given as a dotted line. Complete each figure performing reflection in the dotted (mirror) line. (You might perhaps

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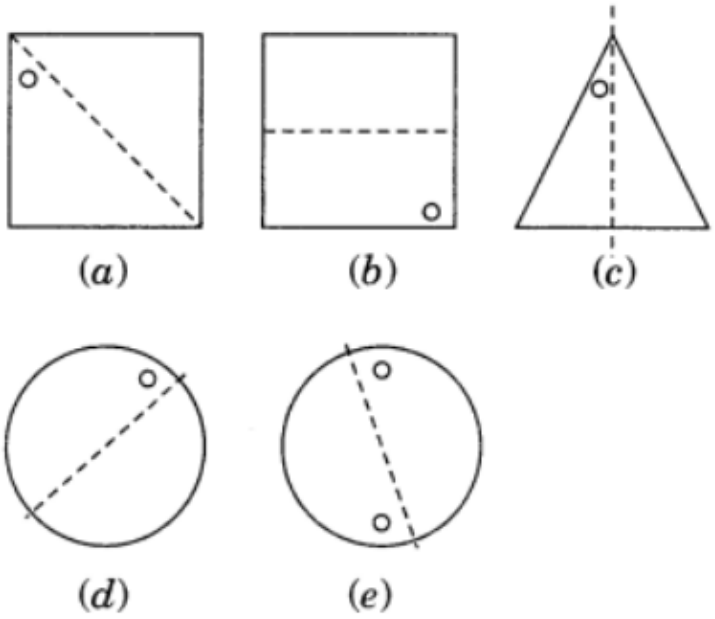
4. Given the line(s) of symmetry, find the other hole(s):



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5. In the figure, l is the line of symmetry. Draw the image of the triangle and complete the diagram so that it becomes symmetric.

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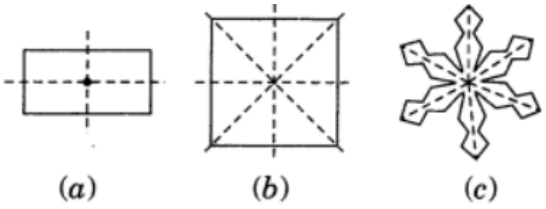
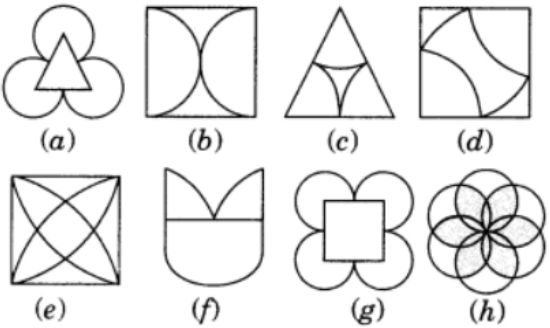
6. The following figures have more than one line of symmetry. Such figures are said to have multiple lines of symmetry.



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



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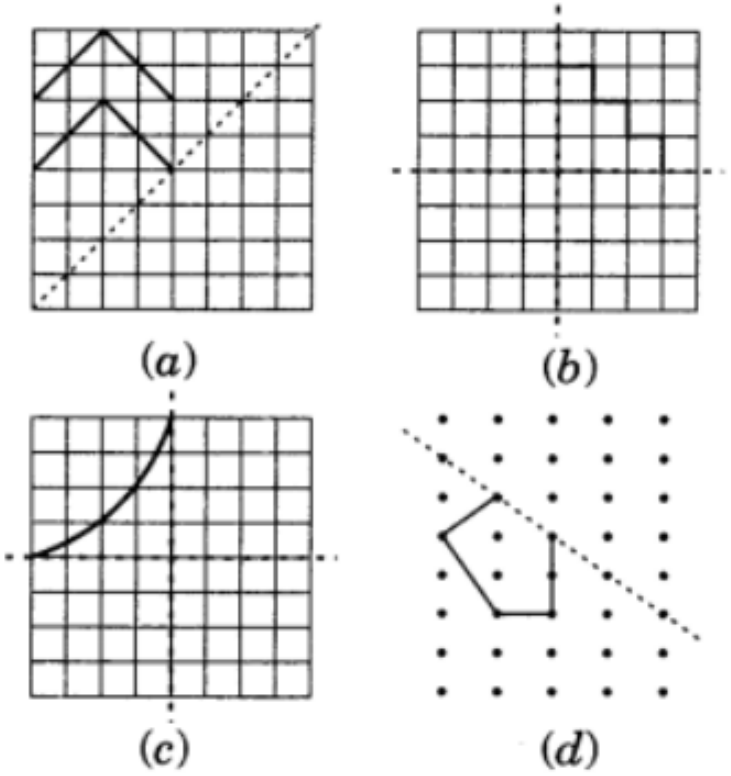
7. Copy the diagram and complete each shape to be symmetric about the mirror line(s):



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8. Fill in the blanks: English alphabet Letter, Line Symmetry, Number of Lines of symmetry, Rotational Symmetry, Order of rotational Symmetry Z S H O E N C, Nil - Yes Yes Yes - -, 0 - - - - - -, Yes - Yes Yes - Yes -, 2 - - - - - -

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9. What letters of the English alphabet have reflectional symmetry (i.e., symmetry relatedto

mirror reflection) about.(a) a vertical mirror (b) a horizontal mirror(c) both horizontal and vertical mirrors

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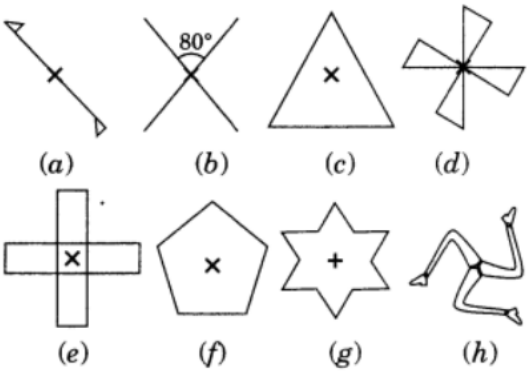
Exercise 14 2

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



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

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