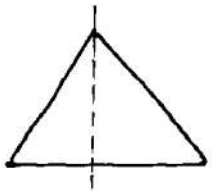
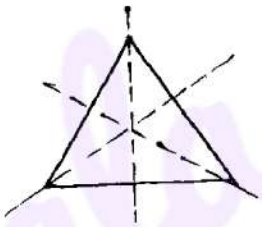
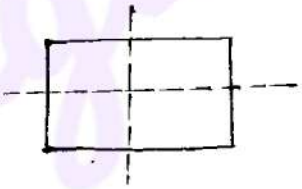
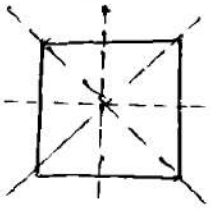
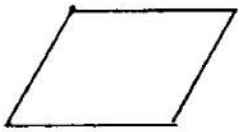
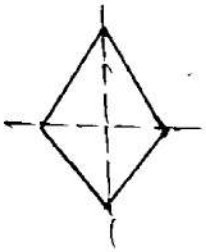
Exercise 17.3

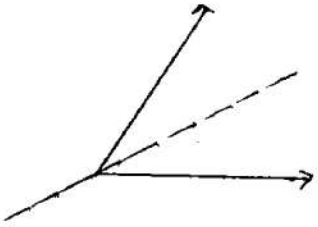
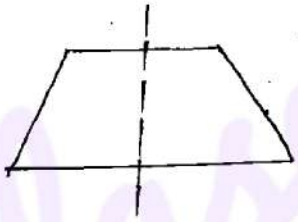
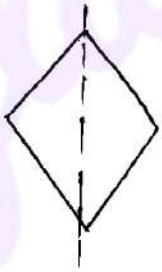
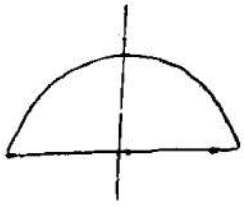
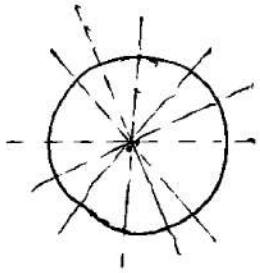
1. Complete the following table

Shape	Rough figure	Number of lines of symmet
(i) Scalene Triangle		0
(ii) Isosceles Triangle		1
(iii) Equilateral triangle		3
(iv) Rectangle		2
(v) Square		4
(vi) Parallelogram		0
(vii) Rhombus		2

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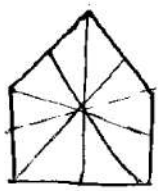
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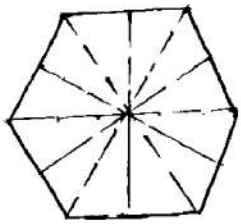
Shape	Rough figure	Number of lines of Symmetry
(viii) Line		Infinitely many
(ix) Line segment		one
(x) Angle		one
(xi) Isosceles Trapezium		one
(xii) Kite		one
(xiii) Arrow head		one
(xiv) Semicircle		one
xv Circle		Infinite

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(xvi) Regular Pentagon  Five

(xvii) Regular hexagon  Six

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Q.2 Consider the english Alphabets A to Z. List among them the letters which have.

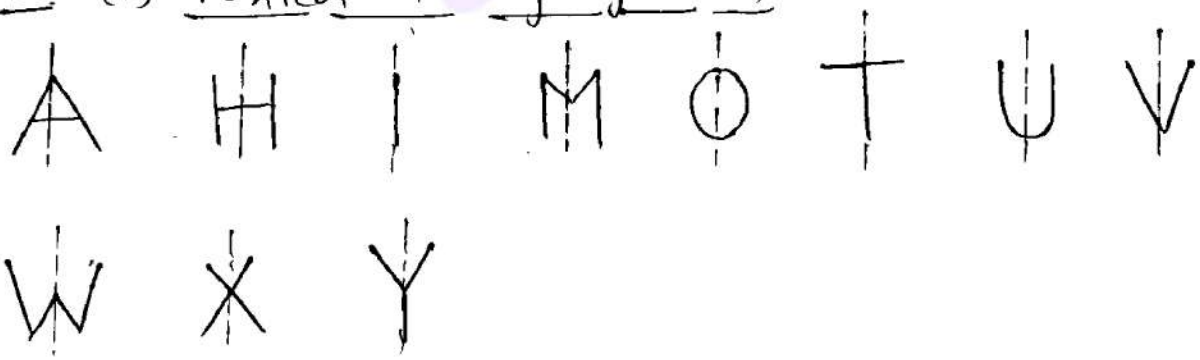
(i) Vertical line of Symmetry (like A)

(ii) horizontal lines of Symmetry (like B)

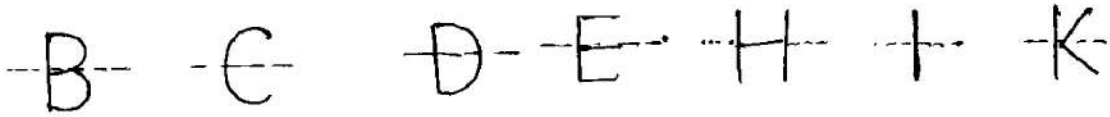
(iii) Vertical and horizontal lines of Symmetry (like I)

(iv) no lines of Symmetry. (like S)

Solution: (i) Vertical line of Symmetry



(ii) Horizontal line of Symmetry:



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(iii) Vertical and horizontal lines of symmetry :



(iv) No line of symmetry

F, G, J, L, N, P, Q, R, S, Z

Q.3 Can you draw a triangle having:

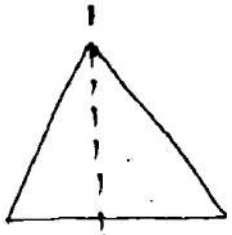
(i) exactly one line of symmetry

(ii) exactly two lines of symmetry

(iii) Three lines of symmetry

(iv) no line of symmetry

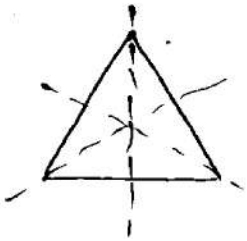
Solution (i) exactly one line of symmetry



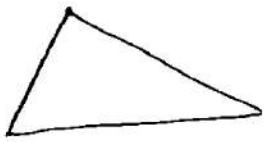
Isosceles triangle.

(ii) There is no triangle of exactly two line of symmetry

(iii) Three line of symmetry – Equilateral triangle



(iv) No line of symmetry – Scalene triangle



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Q4 On a squared paper, sketch the following

(i) A triangle with a horizontal line of symmetry but no vertical line of symmetry

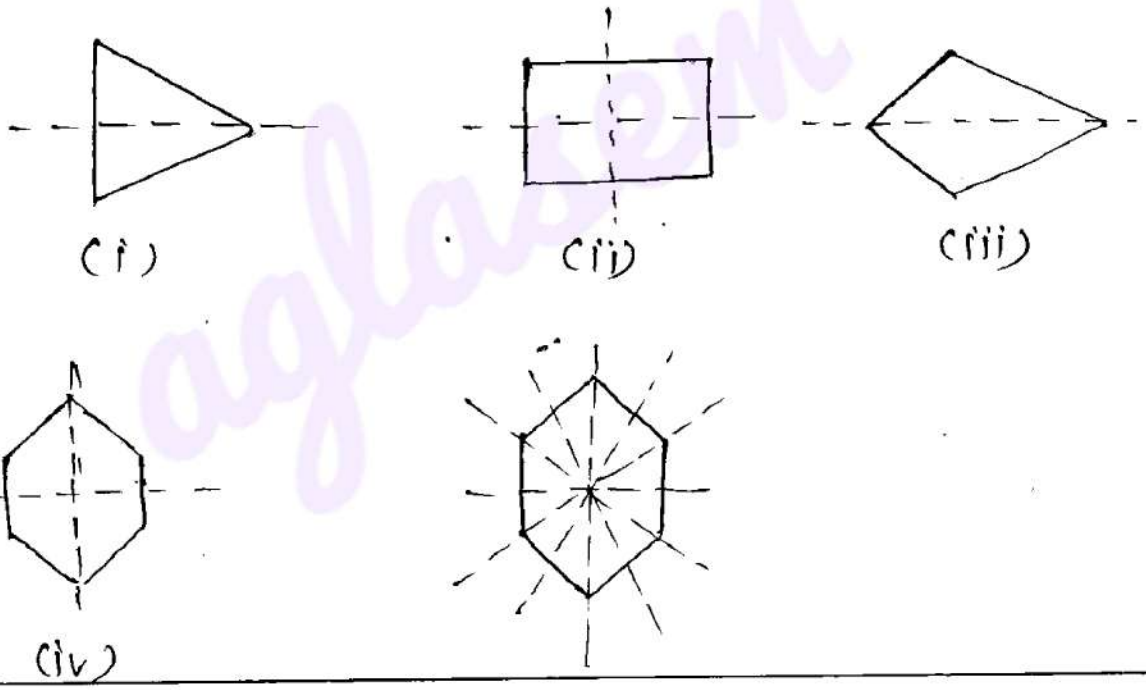
(ii) A quadrilateral with both horizontal and vertical lines of symmetry

(iii) A quadrilateral with a horizontal line of symmetry but no vertical line of symmetry.

(iv) A hexagon with exactly two lines of symmetry

(v) A hexagon with six lines of symmetry.

Solution:



Q.5 Draw neat diagrams showing the line (or lines) of symmetry and give the specific name to the quadrilateral having:

(i) only one line of symmetry.. How many such quadrilaterals are there.

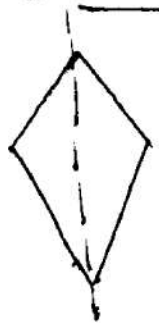
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(ii) Its diagonals as the only lines of symmetry.

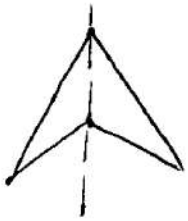
(iii) two lines of symmetry other than diagonals.

(iv) More than two lines of symmetry.

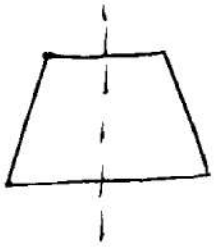
Solution: (i) only one line of symmetry:



Kite

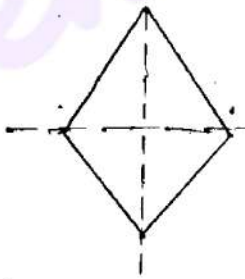


Arrow head



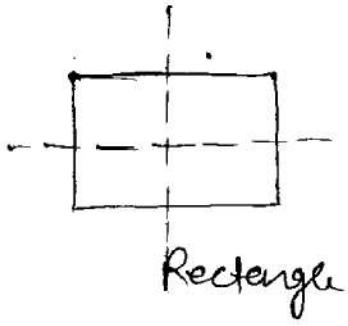
Isosceles trapezium.

(ii) Diagonals as the only lines of symmetry



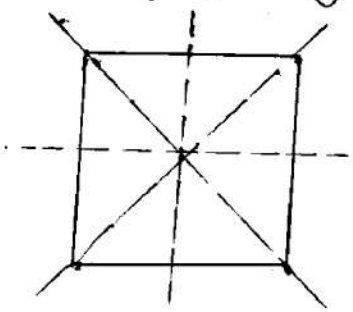
Rhombus.

(iii) Two lines of symmetry other than diagonals



Rectangle

(iv) More than two lines of symmetry:



Square

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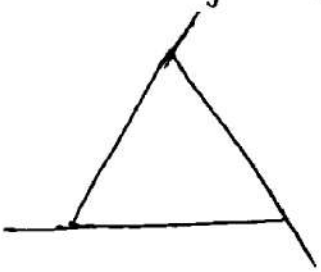
Q6 Write the specific names of all the three quadrilaterals which have only one line of symmetry.

Solution: (i) Kite (ii) Arrowhead

(iii) Isosceles trapezium.

Q7 Trace each of the following figures and draw the lines of symmetry.

(i)



No line of symmetry

(ii)



(iii)



(iv)

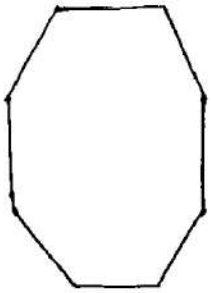


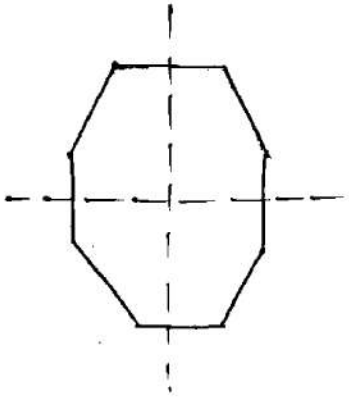
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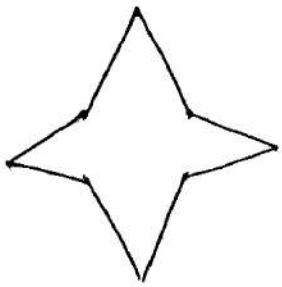
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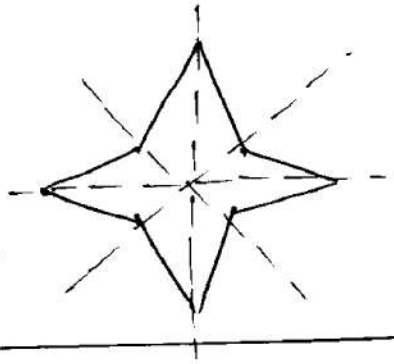
(v)



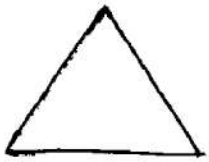


(vi)

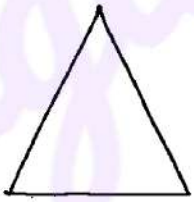




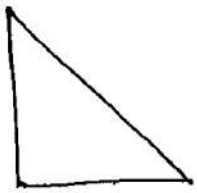
Q.8 on squared paper copy the triangle in each of the following figures. In each case draw the line (s) of symmetry if any and identify the type of the triangle



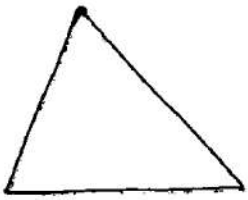
(i)



(ii)



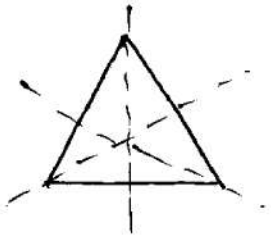
(iii)



(iv).

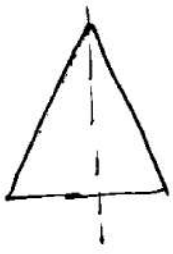
Solution

(i)



It is an equilateral triangle.

(ii)



It is an isosceles triangle.

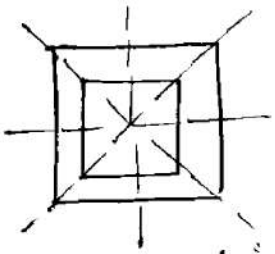
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(iii) No line of Symmetry possible in right triangle

(iv) This is an Scalene triangle, No lines of Symmetry.

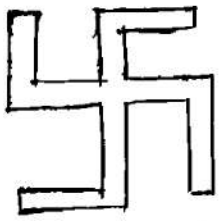
Q9 Find the line of Symmetry for each of the following.



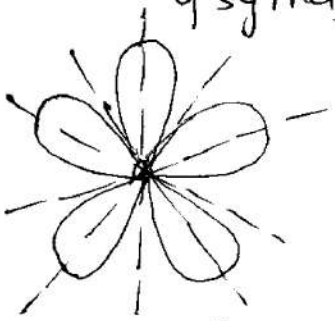
Four line of symmetry



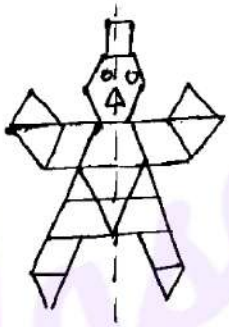
No line of Symmetry



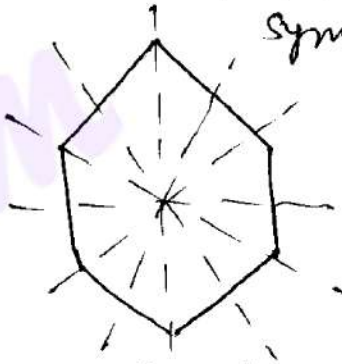
No line of Symmetry



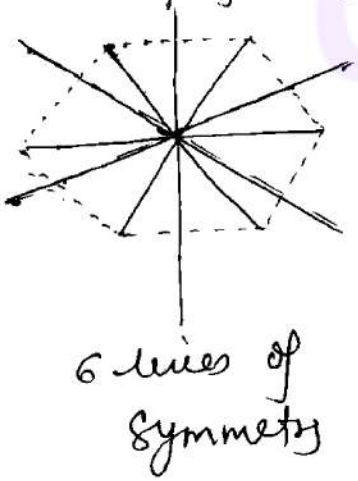
Five lines of Symmetry



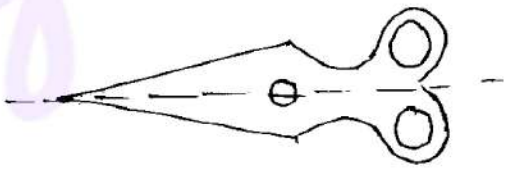
one line of symmetry



Six lines of Symmetry



6 lines of Symmetry



one line of Symmetry

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Q.10 State whether the following statements are true or false:

(i) A right angled triangle can have at most one line of symmetry

(ii) An isosceles triangle with more than one line of symmetry must be an equilateral triangle.

(iii) A Pentagon with one line of symmetry can be drawn.

(iv) A Hexagon with one line of symmetry can be drawn.

(v) A Pentagon with more than one line of symmetry must be regular.

(vi) A hexagon with more than two lines of symmetry Must be regular.

Solution: (i) True (ii) True (iii) True

(iv) True (v) True (vi) True.

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