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Chapter 13; Symmetry

Exercise 13A;

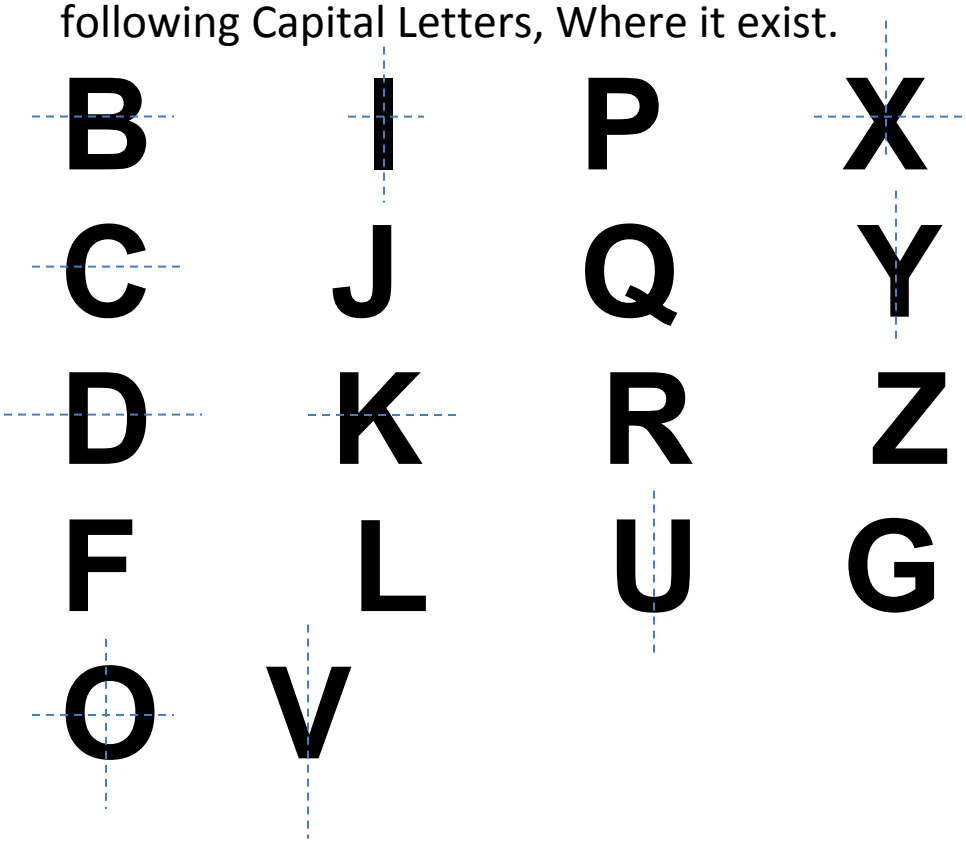
1) Which of the following shapes have no lines of Symmetry at all?

Ans: (a), (c), (g)

2) How many lines of symmetry are there in each of the following shapes?

(a) 1 **(b)** 1 **(c)** 1 **(d)** 3 **(e)** 2 **(f)** 2 **(g)** 2 **(h)** 2 **(i)** 4 **(j)** 2 **(k) 1**

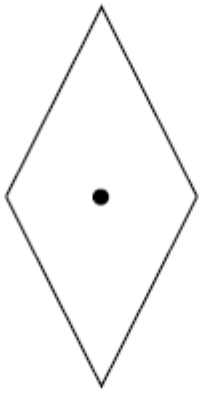
3.Show with dotted lines the line of Symmetry of each of the following Capital Letters, Where it exist.



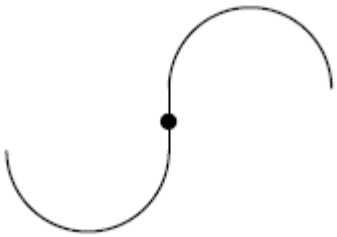
Exercise 13 B:

Q1) Copy the following diagrams and mark the centre of rotation for each diagram.

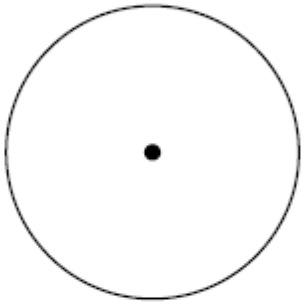
1. **(a)**



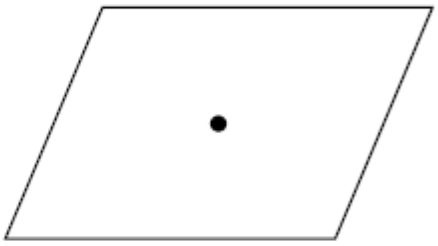
(b)



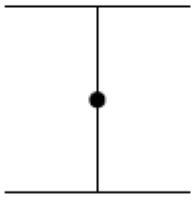
(c)



(d)

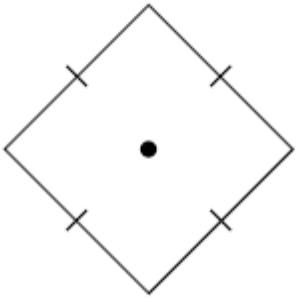


(e)

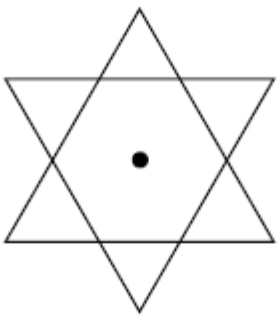


(f)

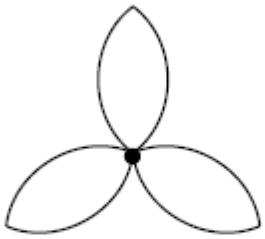
(g)



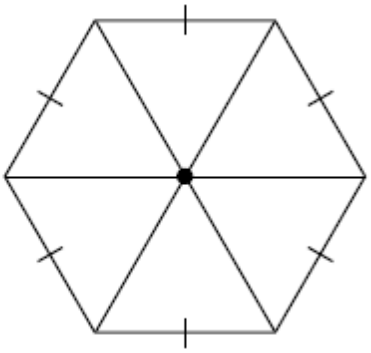
(h)



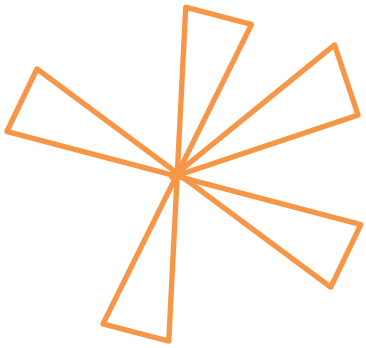
(i)



(j)



Q2) The Object shown has rotational symmetry of Order r. Find the value of r.



Since the figure can be rotated 5 times to fit the original figure, $r = 5$.

Exercise 13C

1. **(a)** True

(b) False

(c) True

(d) True

(e) True

(f) True

(g) False

(h) True

(i) False

(j) False

2. **(a)** Since the base is a square with an order of rotational symmetry 4, the order of rotational symmetry for this pyramid is 4.

(b) Since the base is a regular hexagon with an order of rotational symmetry 6, the order of rotational symmetry for this pyramid is 6.

(c) Since the base is a circle, the order of rotational symmetry is infinite.

(d) Since the ends of the axis are at the circular sides, the order of rotational symmetry is infinite.