Uncovered Module System (UMS)

Chapter Name – Symmetry

Class- 7th

Remember & Understanding Based Questions

Ques.1) How many lines of symmetry does a regular heptagon have?
a) 5 b) 6 c) 7 d) 9

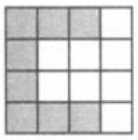
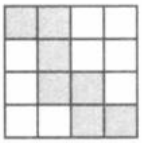
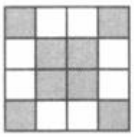
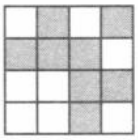
Ques.2) The order of the rotational symmetry of the parallelogram about the centre is_____.
a) 3 b) 2 c) 1 d) 0

Ques.3) A rectangle has order of rotation _____.
a) 4 b) 5 c) 2 d) 3

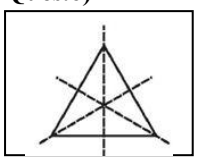
Ques.4) Which of the following has a line of symmetry?

a)  b)  c)  d) 

Ques.5) Which of the following figures does not have a line of symmetry?

a)  b)  c)  d) 

Ques.6) Find the number of lines of this symmetry of the following figure :



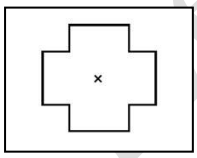
a) 3 b) 1 c) 0 d) 2

Ques.7) A semi - circle has order of rotation _____.
a) 2 b) 4 c) 1 d) 3

Ques.8) In the word **MATHS** which of the following pairs of letters shows rotational symmetry
a) H and S b) M and T c) T and S d) A and S

Ques.9) A rhombus has order of rotation _____.
a) 2 b) 3 c) 1 d) 4

Ques.10) The order of the rotational symmetry of the below figure about the point marked ' x '



a) 1 b) 2 c) 3 d) 0

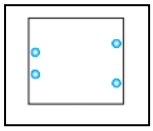
Ques.11) The order of rotational symmetry in the figure given below is

a) 4 b) 6 c) Infinitely many d) 8

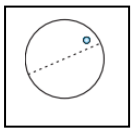
Ques.12) If a figure has two or more lines of symmetry, should it have rotational symmetry of order more than 1?

a) Yes b) May be c) Can't say d) No

Ques.13) Copy the figure with punched holes and find the axes of symmetry:



Ques.14) Given the line of symmetry, find the other hole:



Ques.15) Discuss the rotational and line symmetry of the following figure –

Ques.16) Draw, wherever possible, a rough sketch ofa quadrilateral with a rotational symmetry of order more than 1 but not a line symmetry.

Ques.17) Name any two figures that have both line symmetry and rotational symmetry.

Ques.18) Name the quadrilaterals which have both line and rotational symmetry of order more than 1.

Ques.19) Fill in the Blanks

1. A semicircle has _____ line of symmetry.
2. An angle with equal arms has one line of symmetry which is along the _____ of the angle.
3. Line of symmetry for an angle is its _____.
4. A parallelogram has _____ line of symmetry.
5. An isosceles trapezium has only _____ line of symmetry.
6. A _____ has two lines of symmetry along the line segments joining the mid - points of the opposite sides.
7. A square has four lines of symmetry, two along the diagonals and two along the line segments joining the _____ of the opposite sides.
8. A semicircle has _____ line of symmetry.
9. An angle with equal arms has one line of symmetry which is along the _____ of the angle.
10. A regular pentagon has _____ lines of symmetry.
11. Line of symmetry for an angle is its _____.
12. A parallelogram has _____ line of symmetry.

13. A figure is said to have _____ symmetry if itfits onto itself more than once during a full twin through 360^{o} .

14. _____and _____are the capital letters of English alphabets that have one line of symmetry but they interchange to each other when rotated through 180°.

15. Order of rotational symmetry of a circle is _____.

16. _____is a figure that has neither a line of symmetry nor a rotational symmetry.

17. _____triangle is a figure that has a line of symmetry but lacks rotational symmetry.

Ques.20) State True & False

1. The letter Z has 2 lines of symmetry.
2. The letter 'B' can have only a horizontal line of symmetry.
3. A rhombus has four lines of symmetry.
4. An angle with equal arms is symmetrical about its sides.
5. An isometric sketch does not have proportional length.
6. Rotation turns an object about a fixed point which is known as centre of rotation.
7. An isosceles triangle does not have rotational symmetry.
8. After rotating a figure by 120° about its centre, the figure coincides with its original position. This will happen again if the figure is rotated at an angle of 240°.
9. The order of rotational symmetry of a figure is 4 and the angle of rotation is 180° only.
10. Order of rotational symmetry of a semi - circle is two.

Analytical Based Questions

Ques.1) Assertion (A): A square has four lines of symmetry.
Reason (R): Regular polygon have multiple lines of symmetry.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

Ques.2) Assertion (A): Letter 'M' has more than one line of symmetry.
Reason (R): Line symmetry is also known as reflection symmetry.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

Ques.3) Assertion (A): The lines of symmetry in a regular pentagon is 5.
Reason (R): A figure has line symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

Ques.4) Assertion (A): A shape has a rotational symmetry of order 5,it's angle of rotation is 72 degree.
Reason (R): If a given shape during a complete rotation produces shapes that coincide with the original shape more than once, then the shape is said to exhibit the property of rotational symmetry.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.

c) A is true but R is false. d) A is false but R is true.

Ques.5) Assertion (A): An equilateral traingle have a rotational symmetry of order 3.
Reason (R): The point about which rotation happens is called the centre of rotation.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

Ques.6) Assertion (A): A shape has a rotational symmetry of order 12. The angle of rotation is 60 degree.
Reason (R): If after rotation the object looks exactly same then it has a rotational symmetry.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

Ques.7) Assertion (A): In English alphabet letter 'S' has both type of symmetry that is line and rotational symmetry.
Reason (R): The angle by which the object rotates is the angle of rotation.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

Ques.8) Assertion (A): If a figure has two or more lines of symmetry, then it have rotational symmetry of order more than one.
Reason (R): If after rotation, an object looks exactly same we say that it has a rotational symmetry.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

Ques.9) Match the following:

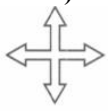
Figure	Order of rotational symmetry
(P) 	(i) 5
(Q) 	(ii) 3
(R) 	(iii) 2
(S) 	(iv) 4

a) (P)→ (iv), (Q) → (iv), (R) → (ii), (S) → (i) b) (P)→ (ii), (Q) → (i), (R) → (iv), (S) → (iii)
c) (P)→ (ii), (Q) → (iv), (R) → (iii), (S) → (i) d) (P)→ (iv), (Q) → (i), (R) → (ii), (S) → (iii)

Ques.10) Match the following:

Column A	Column B
(a) Z	(p) Both line and rotational symmetry
(b) C	(q) Rotational symmetry
(c) O	(r) Line symmetry
(d) N	(s) Rotational symmetry

Ques.11) Select the CORRECT option.



a)
- It has only two lines of symmetry.

b) 

- It has only two lines of symmetry.

c) 

- It has infinite order of rotational symmetry.

d) 

- It has no line of symmetry.

Ques.12) Match the following:

Column A	Column B
(a) Regular hexagon	(p) 5 lines of symmetry
(b) Square	(q) 3 lines of symmetry
(c) Equilateral triangle	(r) 4 lines of symmetry
(d) Regular pentagon	(s) 6 lines of symmetry

Ques.13) After rotating by 60° about a centre, a figure looks exactly the same as its original position. At what other angles will this happen for the figure?

Ques.14) State whether the given figure shows rotational symmetry. If yes, then what is the order of rotational symmetry?

Question No. 15 to 18 are based on the given text. Read the text carefully and answer the questions: Sanju attends his friend's party. In the party they started with welcome drink which is served in a cylindrical glss. There were variety of snacks like pizza, square shaped cake, Nachos and Kaju burfi.

Ques.15) The number of lines of symmetry of glass _____.

Ques.16) State the number of lines of symmetry for Pizza.
a) Five b) Three c) Infinite d) Two

Ques.17) State the number of lines of symmetry for Nachos.
a) Four b) Two c) One d) Three

Ques.18) State the number of lines of symmetry for one Kaju barfi
a) Two b) Zero c) Three d) One

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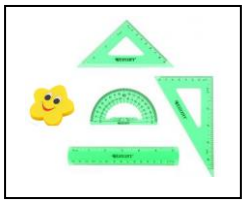
Chapter Name – Symmetry

Class- 7th

Question No. 19 to 22 are based on the given text. Read the text carefully and answer the questions:

After explaining the concept of order of rotational symmetry, the teacher asks students to open the Geometry box and place all the tools on the desk. All students follow the teacher's instructions. Teacher asks Anand to place his Ruler, Set squares, Protractor and eraser on her Table.



Ques.19) Order of rotational symmetry for Ruler is _____.

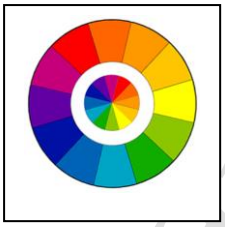
Ques.20) Give order of rotational symmetry for Set square (Isosceles triangle).
a) One b) Three c) Two d) Zero

Ques.21) Give order of rotational symmetry for Protractor.
a) Two b) Three c) One d) Four

Ques.22) Give order of rotational symmetry for Set square (Right angle triangle).
a) Four b) One c) Three d) Two

Question No. 23 to 26 are based on the given text. Read the text carefully and answer the questions:

The teacher is taking viva in a class. She gave some topics for preparation. She made the spinning wheel with the topics for viva on PowerPoint presentation. The teacher call students roll number - wise and spin the spinning wheel. Students give the answer to the question asked by the teacher on a topic which comes on spinning wheel.



Ques.23) In spinning wheel _____ forms a line of (reflectional) symmetry.

Ques.24) Centre of rotation of spinning wheel is
a) Centre of circle b) On the circumference of circle c) Outside the circle d) Anywhere on radius

Ques.25) What is order of rotation of spinning wheel?
a) Infinite b) Two c) Three d) One

Ques.26) Write the angle of rotation of spinning wheel?
a) 360^o b) 90^o c) 180^o d) Any angle