

Symmetry

Question 1.

Letter 'C' of the English alphabet have reflectional symmetry (i.e., symmetry related to mirror reflection) about.

- (a) a horizontal mirror
- (b) a vertical mirror
- (c) both
- (d) None of these

Answer: (a) a horizontal mirror

Question 2.

State the number of lines of symmetry for a quadrilateral.

- (a) 1
- (b) 0
- (c) 2
- (d) None of these

Answer: (b) 0

There is no line about which the figure may be folded.

Question 3.

How many lines of symmetries are there in an equilateral triangle?

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

Answer: (b) 3

Question 4.

Letter 'G' of the English alphabet have reflectional symmetry (i.e., symmetry related to mirror

reflection) about.

- (a) Neither horizontal nor vertical
- (b) a horizontal mirror
- (c) a vertical mirror
- (d) both

Answer: (a) Neither horizontal nor vertical

Question 5.

State the number of lines of symmetry for a scalene triangle.

- (a) 1
- (b) 2
- (c) 0
- (d) None of these

Answer: (c) 0

It is an irregular figure.

Question 6.

Which of these letters has only rotational symmetry?

- (a) S
- (b) E
- (c) B
- (d) P

Answer: (a) S

Question 7.

Which of the following triangles has no line of symmetry?

- (a) An equilateral triangle
- (b) An isosceles triangle
- (c) A scalene triangle
- (d) All of the above

Answer: (c) A scalene triangle

Question 8.

State the number of lines of symmetry for a parallelogram.

- (a) 0
- (b) 1

- (c) 2
- (d) None of these

Answer: (a) 0

There is no line about which the figure may be folded.

Question 9.

Letter 'H' of the English alphabet have reflectional symmetry (i.e., symmetry related to mirror reflection) about.

- (a) a vertical mirror
- (b) Both horizontal and vertical
- (c) a horizontal mirror
- (d) Neither horizontal nor vertical

Answer: (b) Both horizontal and vertical

Question 10.

Number of lines of symmetry a triangle does not have:

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

Answer: (d) 2

Question 11. State the number of lines of symmetry a circle.

- (a) Infinite
- (b) 0
- (c) 4
- (d) None of these

Answer: (a) Infinite

There are infinite number of lines about which the figure may be folded.

Question 12.

How many lines of symmetries are there in regular pentagon?

- (a) 2
- (b) 3
- (c) 5
- (d) 4

Answer: (c) 5

Question 13.

Which of the following has both horizontal as well as vertical line of symmetry?

- (a) H
- (b) S
- (c) V
- (d) A

Answer: (a) H

Question 14.

State the number of lines of symmetry for a rhombus.

- (a) 5
- (b) 3
- (c) 2
- (d) None of these

Answer: (c) 2

There are two lines about which the figure may be folded.

Question 15.

Which of the following alphabets has line symmetry?

- (a) P
- (b) Q
- (c) Z
- (d) A

Answer: (d) A

Question 16.

Which of the following letters have reflection line of symmetry about vertical mirror?

- (a) C
- (b) V
- (c) B
- (d) Q

Answer: (b) V

Question 17.

State the number of lines of symmetry for an isosceles triangle.

- (a) 0
- (b) 1
- (c) 2
- (d) None of these

Answer: (b) 1

As there is only one face from where it is folded then makes angles of symmetry.

Question 18.

What is the order of rotational symmetry of the English alphabet Z?

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

Answer: (c) 2

Question 19.

State the number of lines of symmetry for an equilateral triangle.

- (a) 3
- (b) 0
- (c) 1
- (d) None of these

Answer: (a) 3

As there are three vertices in a triangle.

Question 20.

How many lines of symmetries are there in a square?

- (a) 2
- (b) 3
- (c) 4
- (d) 1

Answer: (c) 4

Question 21.

State the number of lines of symmetry for a square.

- (a) 2
- (b) 3
- (c) 4
- (d) None of these

Answer: (c) 4

Square has a rotational symmetry of order 4.

Question 22.

Letter 'D' of the English alphabet have reflectional symmetry (i.e., symmetry related to mirror reflection) about.

- (a) a vertical mirror
- (b) a horizontal mirror
- (c) both
- (d) None of these

Answer: (a) a vertical mirror

Question 23.

How many lines of symmetries are there in rectangle?

- (a) 2
- (b) 1
- (c) 0
- (d) None of these

Answer: (a) 2

Question 24. State the number of lines of symmetry a regular hexagon.

- (a) 6
- (b) 5
- (c) 4
- (d) None of these

Answer: (a) 6

There are six lines about which the figure may be folded.

Question 25.

A In $\triangle XYZ$, $XY = XZ$ and $XM \perp YZ$ and $ZP \perp XY$. About which of the following is the triangle symmetrical?

- (a) XM

- (b) YN
- (c) ZP
- (d) XZ

Answer: (a) XM

Question 26.

Which of these quadrilaterals have both line and rotational symmetries of order more than 3?

- (a) A triangle
- (b) A square
- (c) A kite
- (d) A rectangle

Answer: (b) A square

Question 27.

State the number of lines of symmetry for a rectangle.

- (a) 5
- (b) 2
- (c) 3
- (d) None of these

Answer: (b) 2

There are two lines about which the figure may be folded.

Question 28.

Which of the following alphabets has many lines of symmetry?

- (a) I
- (b) O
- (c) P
- (d) F

Answer: (b) O

Match the following :

Symmetry related to mirror reflection.

1. M	(a) A vertical mirror
2. A	(b) A horizontal mirror

3. B	(c) Both horizontal and vertical mirror
4. 0	(d) A vertical mirror

Answer:

1. M	(d) A vertical mirror
2. A	(a) A vertical mirror
3. B	(b) A horizontal mirror
4. 0	(c) Both horizontal and vertical mirror

Match the following :

Regular Polygon	Number of lines of symmetry
1. Hexagon	(a) 5
2. Pentagon	(b) 3
3. Square	(c) 6
4. Equilateral triangle	(d) 4

Answer:

Regular Polygon	Number of lines of symmetry
1. Hexagon	(c) 6
2. Pentagon	(a) 5
3. Square	(d) 4
4. Equilateral triangle	(b) 3

State whether the given statements are True or False.

Question 1.

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

Answer: True

Question 2.

A parallelogram has both fine and rotational symmetry of order more than 1.

Answer: False

Question 3.

We can have a rotational symmetry of order more than 1 whose angle of rotation is 45° .

Answer: True

Question 4.

We can have a rotational symmetry of order more than 1 whose angle of rotation is 17° .

Answer: False

Fill in the blanks.

1. If after a rotation, an object looks exactly the same we say that it has a

Answer: rotational symmetry

2. have equal sides and equal angles.

Answer: regular polygon

3. A figure has, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.

Answer: line symmetry

4. In a complete turn (of 360°) the number of times an object looks exactly the same is called the

Answer: order of rotational symmetry

5. Rotation turns an object about a fixed point. This fixed point is the
The angle by which the object rotates is the

Answer: centre of rotation, angle of rotation
