

MATHEMATICS

Chapter 14: Symmetry



Important Questions

Multiple Choice Questions-

Question 1. How many lines of symmetry are there in an equilateral triangle?

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

Question 2. How many lines of symmetry are there in a square?

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

Question 3. How many lines of symmetry are there in a rectangle?

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

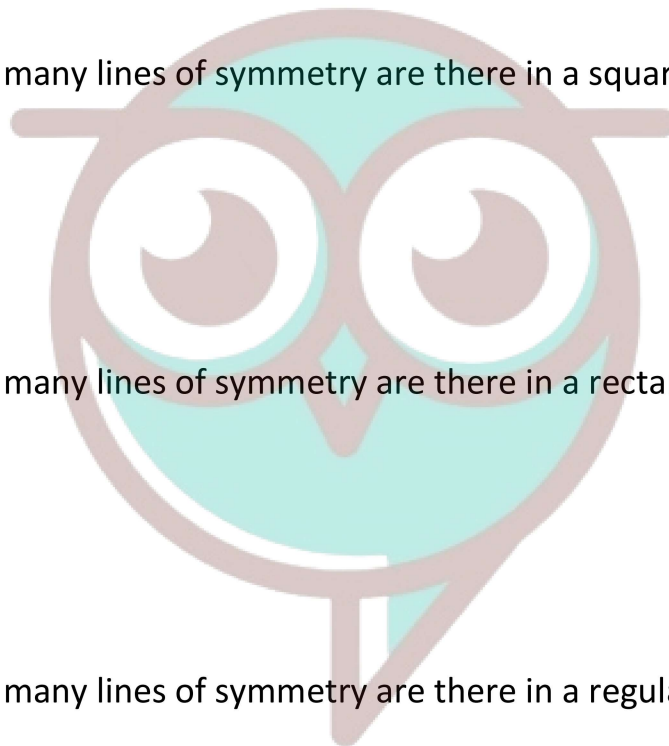
Question 4. How many lines of symmetry are there in a regular pentagon?

- (a) 1
- (b) 2
- (c) 3
- (d) 5

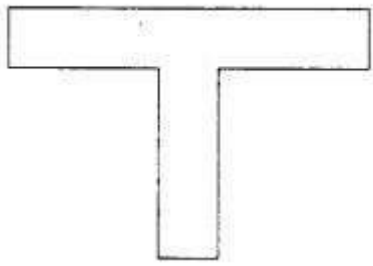
Question 5. How many lines of symmetry are there in a regular hexagon?

- (a) 2
- (b) 4
- (c) 6
- (d) 3

Question 6. How many lines of symmetry are there in the following figure?

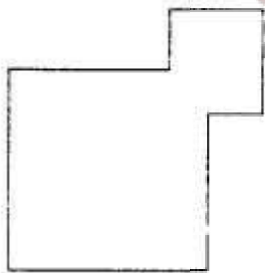


Swotters

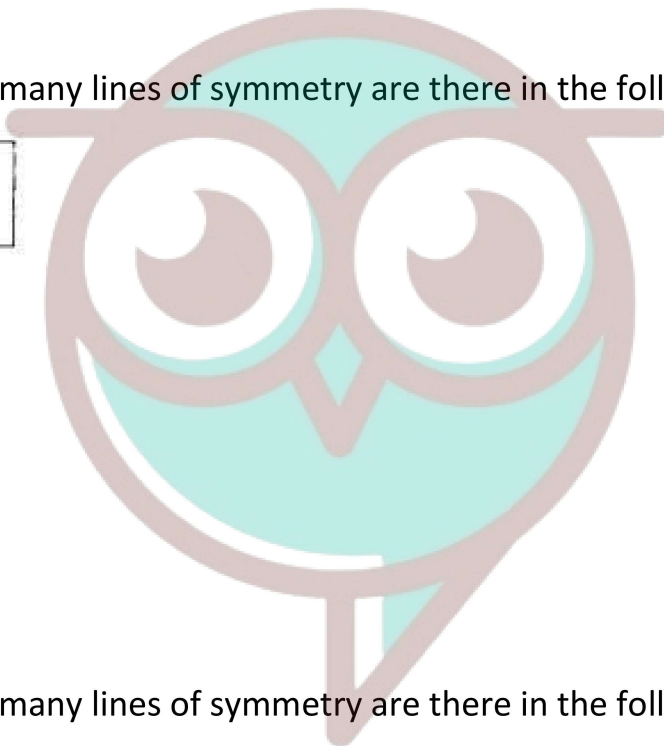


- (a) 1
- (b) 2
- (c) 3
- (d) 4

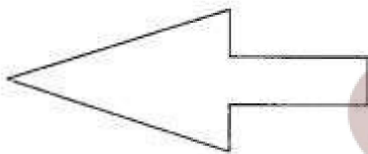
Question 7. How many lines of symmetry are there in the following figure?



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



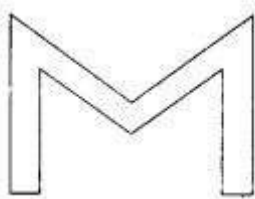
Question 8. How many lines of symmetry are there in the following figure?



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



Question 9. How many lines of symmetry are there in the following figure?



- (a) 4

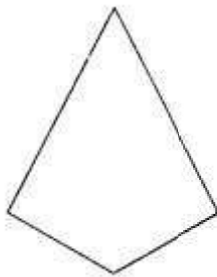
- (b) 3
- (c) 2
- (d) 1

Question 10. How many lines of symmetry are there in the following figure?



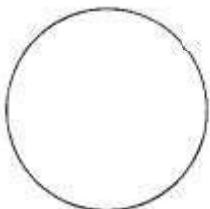
- (a) 2
- (b) 1
- (c) 4
- (d) 3

Question 11. How many lines of symmetry are there in following figure?

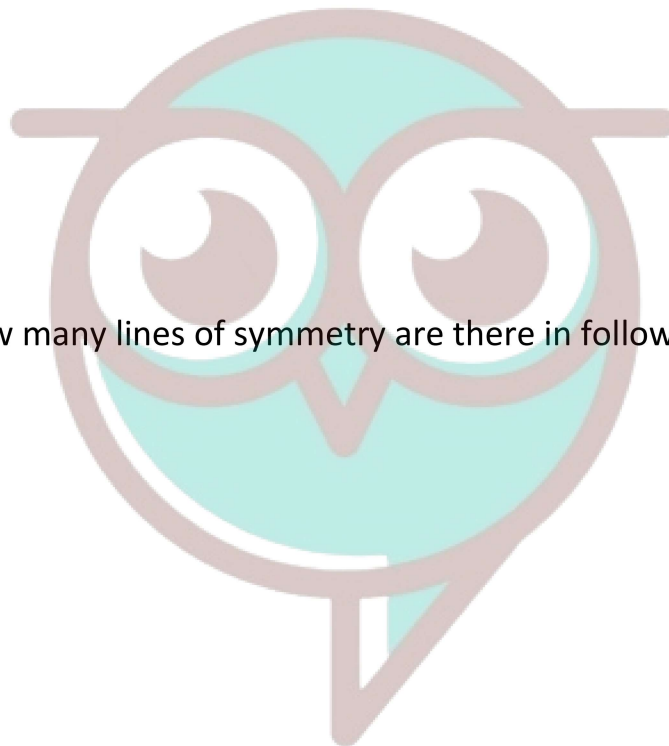


- (a) 1
- (b) 2
- (c) 3
- (d) None of these

Question 12. How many lines of symmetry are there in the following figure?



- (a) 1
- (b) 2
- (c) 3
- (d) Infinitely many



Swotters

Question 13. How many lines of symmetry are there in an isosceles triangle?

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

Question 14. How many lines of symmetry are there in a scalene triangle?

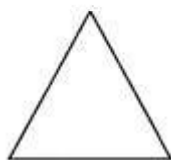
- (a) 1
- (b) 0
- (c) 2
- (d) 4

Question 15. How many lines of symmetry are there in a rhombus?

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

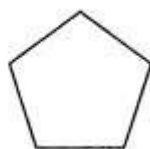
Very Short Questions:

1. Draw any two English alphabets having an only a vertical line of symmetry.
2. Draw any two English alphabets having a horizontal line of symmetry.
3. Draw any two English alphabets having both horizontal and vertical line of symmetry.
4. Draw any two English alphabets which has no line of symmetry.
5. Draw any two figures which have the order of rotational symmetry 4.
6. Draw any two figures which have the order of rotational symmetry 2.
7. State the order of rotational symmetry of the following figures.



Equilateral triangle

(i)



Regular pentagon

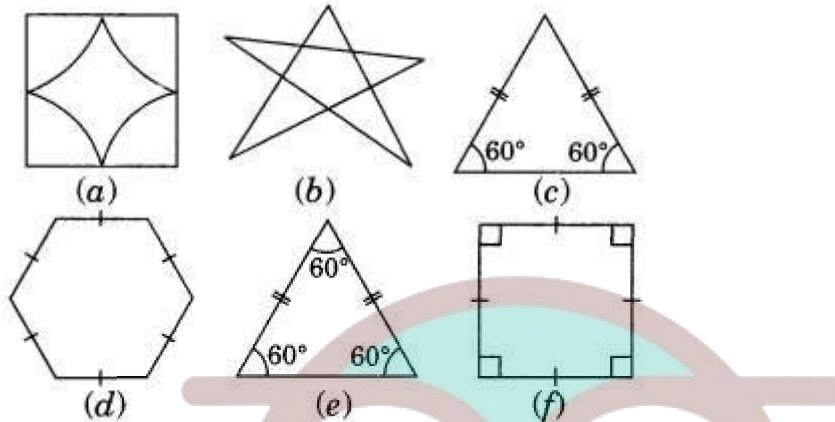
(ii)

8. Draw a figure having an infinite number of lines of symmetry.
9. Draw any two figure having no lines of symmetry.
10. State the English alphabet which has only the horizontal line of

symmetry.

Short Questions :

1. Give the order of rotational symmetry of each of the following figures:



2. How many lines of symmetry do the following have:
- a parallelogram
 - an equilateral triangle
 - a right angle with equal legs
 - an angle with equal arms
 - a semicircle
 - a rhombus
 - a square
 - scalene triangle
3. What letters of the English alphabet have reflectional symmetry about?
- a vertical mirror
 - a horizontal mirror
 - both horizontal and vertical mirrors

Long Questions :

1. Give three examples of shapes with no line of symmetry.

Answer Key-

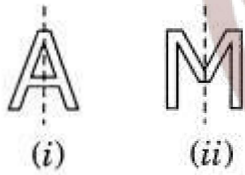
Multiple Choice questions-

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

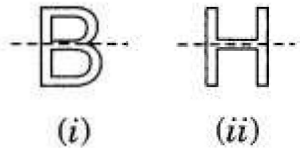
- 5. (c) 6
- 6. (a) 1
- 7. (a) 1
- 8. (a) 1
- 9. (d) 1
- 10. (b) 1
- 11. (a) 1
- 12. (d) Infinitely many
- 13. (c) 1
- 14. (b) 0
- 15. (b) 2

Very Short Answer :

1.



2.



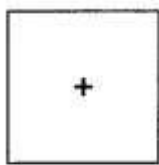
3.



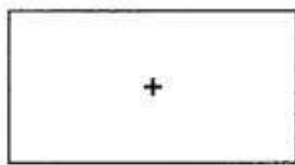
4.



5.

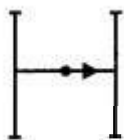


Square
(i)



Rectangle
(ii)

6.



English alphabet
H



English alphabet
S

7. (i) Order of equilateral triangle = 3
(ii) Order of regular pentagon = 5.

8.



Circle

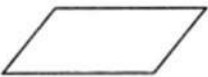
A circle has the infinite number of lines of symmetry.

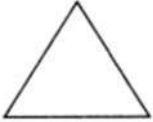
9. English alphabet R and P have no lines of symmetry.
10. B, C, D, E, H, I, O, X and K are the English alphabets having an only horizontal line of symmetry.

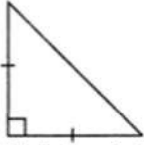
Short Answer :


1. (a) Order of rotational symmetry = 4
(b) Order of rotational symmetry = 5
(c) Order of rotational symmetry = 3
(d) Order of rotational symmetry = 6
(e) Order of rotational symmetry = 3
(f) Order of rotational symmetry = 4


2.

(a)  No line of symmetry
Parallelogram

(b)  Number of lines of symmetry = 3
Equilateral triangle

(c)  Number of lines of symmetry = 1
Right angled isosceles triangle

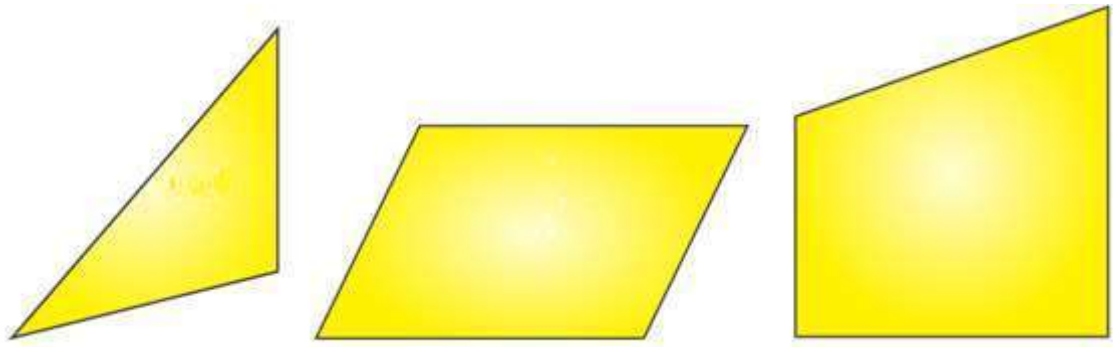
(d)  Number of lines of symmetry = 1
An angle with equal arm

(e)  Number of lines of symmetry = 1
A semicircle

3. (a) The letters of English alphabet having reflectional symmetry about a vertical mirror are:
A, H, I, M, O, T, U, V, W, X, Y
- (b) Letters of the English alphabets having reflectional symmetry about a horizontal mirror are:
B, C, D, E, H, I, O, X
- (c) Letters of the English alphabet having reflectional of symmetry about vertical and horizontal mirror are:
O, X, I, H.

Long Answer :

1. A shape has a no line of symmetry, if there is no line about which the figure may be folded and also parts of the figure will not coincide.
A scalene triangle, a quadrilateral and a parallelogram



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