

Mathematics

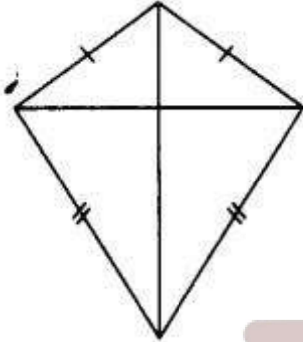
Chapter 13: Symmetry



Important Questions

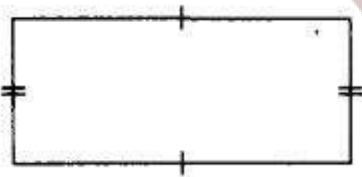
Multiple Choice Questions:

Question 1. How many lines of symmetry does the figure have?



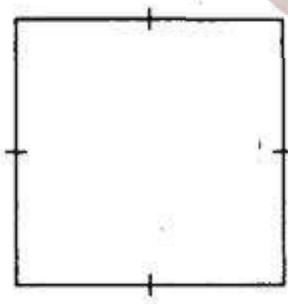
- (a) 1
- (b) 2
- (c) 3
- (d) 4

Question 2. How many lines of symmetry does the figure have?

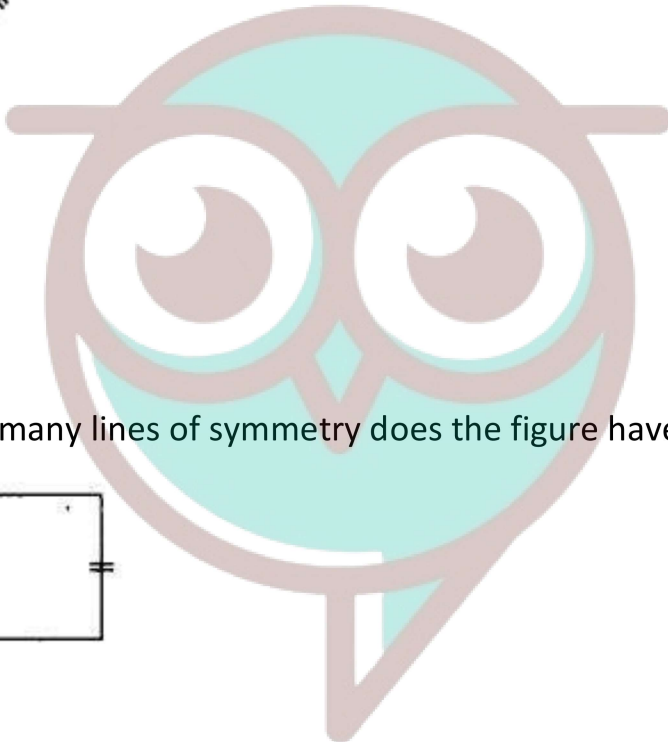


- (a) 1
- (b) 2
- (c) 3
- (d) 4.

Question 3. How many lines of symmetry does the figure have?

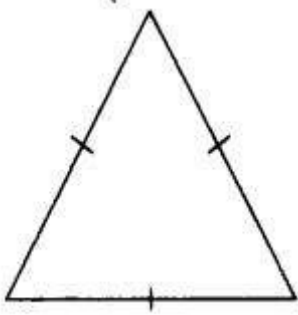


- (a) 1
- (b) 2
- (c) 3



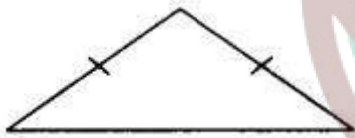
(d) 4

Question 4. How many lines of symmetry does the figure have?



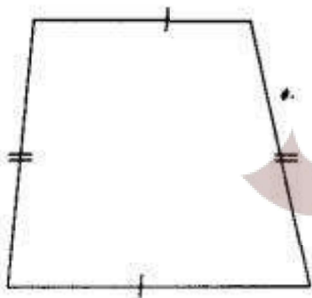
- (a) 1
- (b) 2
- (c) 3
- (d) 4

Question 5. How many lines of symmetry does the figure have ?



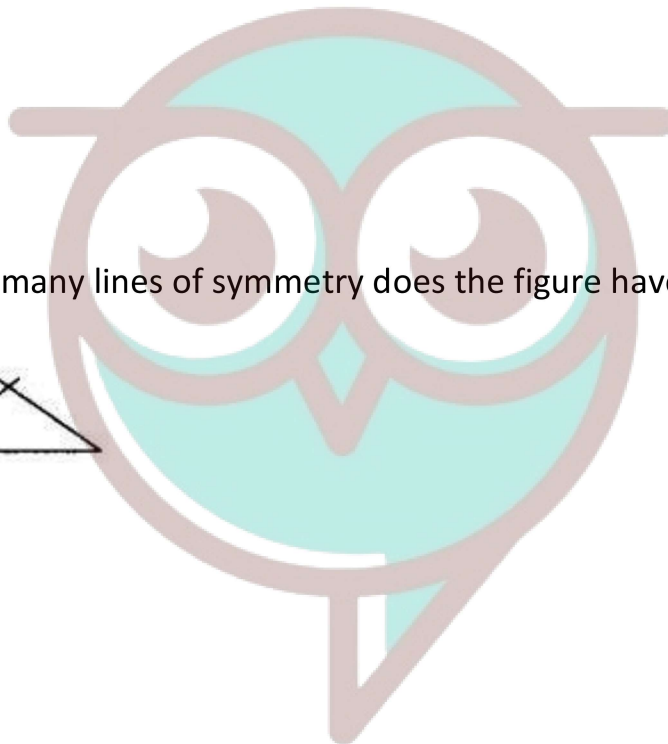
- (a) 1
- (b) 2
- (c) 3
- (d) 4

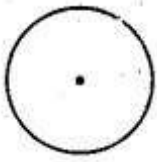
Question 6. How many lines of symmetry does the figure have ?



- (a) 1
- (b) 2
- (c) 3
- (d) no line of symmetry

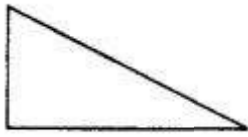
Question 7. How many lines of symmetry does the figure have?





- (a) 1
- (b) 2
- (c) 3
- (d) Countless.

Question 8. How many lines of symmetry does the figure have?



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

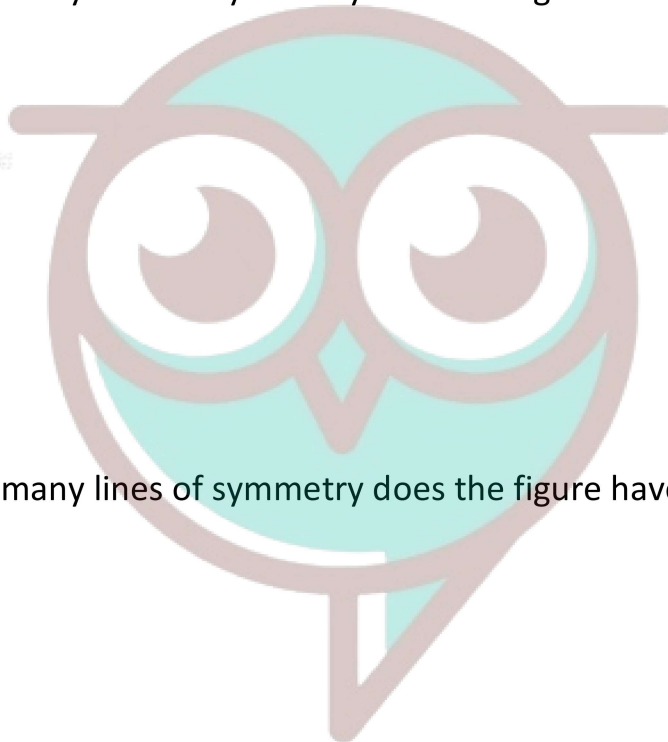
Question 9. How many lines of symmetry does the figure have?



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

Question 10. How many lines of symmetry does a regular hexagon have?

- (a) 1
- (b) 3
- (c) 4
- (d) 6



Swotters

Question 11. Which of the following letters has horizontal line of symmetry?

- (a) C
- (b) A
- (c) J
- (d) L.

Question 12. Which of the following letters has horizontal line of symmetry?

- (a) Z
- (b) V
- (c) U
- (d) E.

Question 13. Which of the following letters has horizontal line of symmetry?

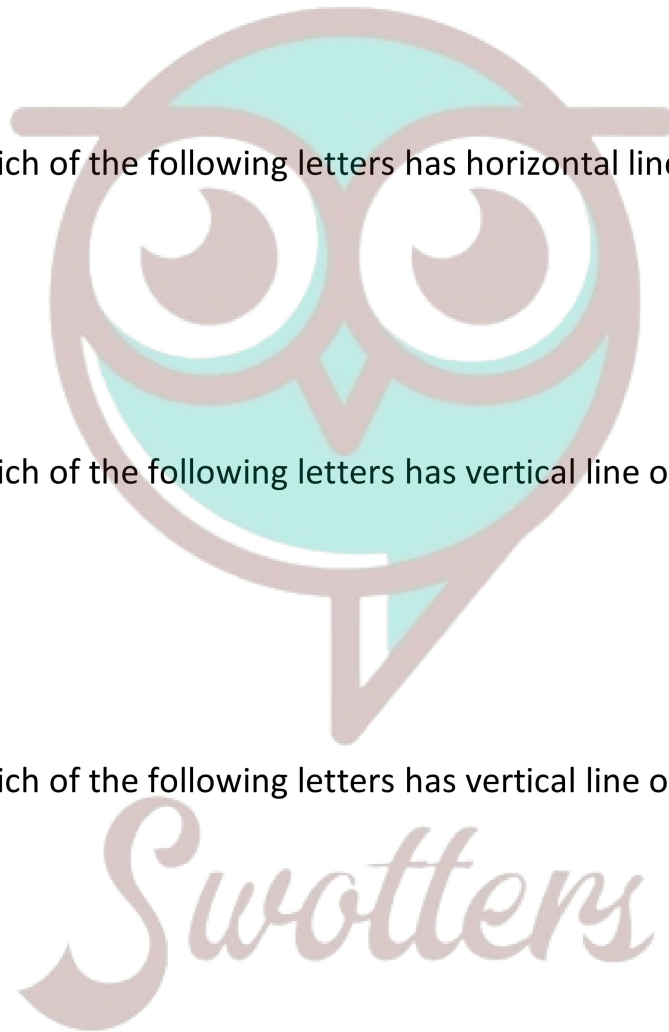
- (a) S
- (b) W
- (c) D
- (d) Y.

Question 14. Which of the following letters has vertical line of symmetry?

- (a) R
- (b) C
- (c) B
- (d) T.

Question 15. Which of the following letters has vertical line of symmetry?

- (a) N
- (b) K
- (c) B
- (d) M.



Match The Following:

	Column I		Column II
1.	Taj Mahal	A.	Horizontal & Vertical
2.	Scissor	B.	Symmetric Monument
3.	Letter 'l'	C.	No line of symmetry
4.	Scalene triangle	D.	One line of symmetry

Fill in the blanks:

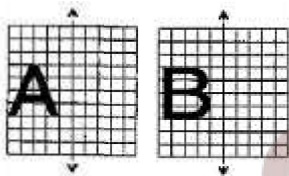
1. The geometrical figure _____ has 2 lines of symmetry.
2. The alphabet 'A' has _____ line of symmetry.
3. The circle has _____ line of symmetry.
4. The flower which has lines of symmetry is _____.

True /False:

1. Number 'zero' has no line of symmetry.
2. Alphabet 'Z' has horizontal line of symmetry.
3. An image in the mirror is as far behind the mirror as the object in front of mirror.
4. Symmetrical objects are identical to each other.

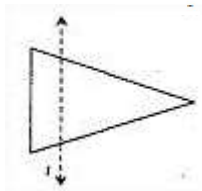
Very Short Questions:

1. Name 2 symmetrical pulses
2. What is another name of line of symmetry?
3. In each figure alongside, a letter of the alphabet is shown along with a vertical line. Take the mirror image of the letter in the given line. Find which letters look the same after reflection (i.e., which letters look the same in the image), and which do not. Can you guess why?



Try for O E M N P H L T S V X

4. In the figure, l is the line of symmetry. Draw the image of the triangle and complete the diagram so that it becomes symmetric.

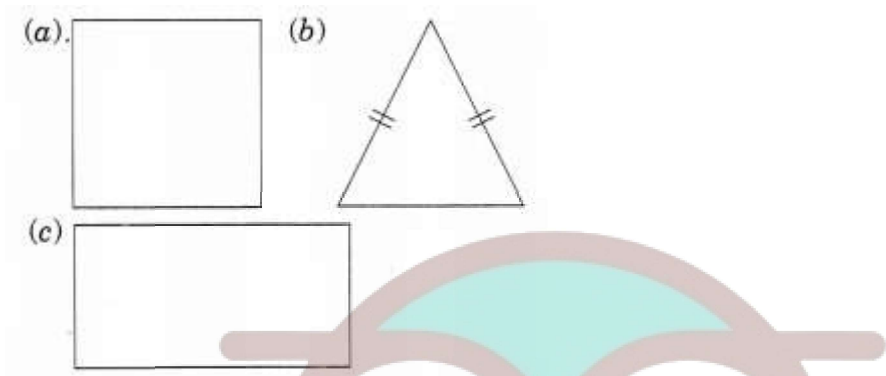


5. Draw 3-shape which is not polygon. Draw line of symmetry in it.
6. In environment butterfly are found colourful butterfly are the gift of nature. Does all butterfly have the line of symmetry?
7. What is symmetry? Name all type of symmetry.
8. Write four such English letters which have no line of symmetry.

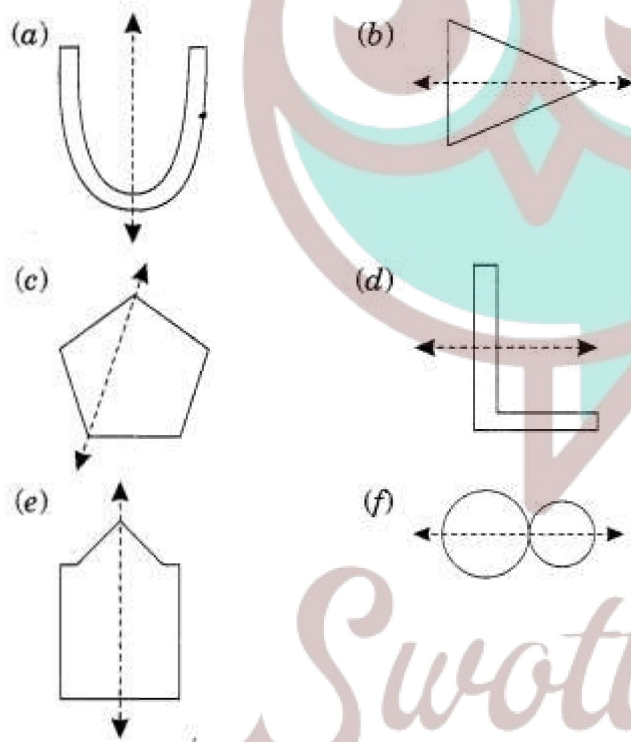
9. Write 5 such English letters which have horizontal line of symmetry.
10. Write 4 English letters which have vertical lines of symmetry.

Short Questions:

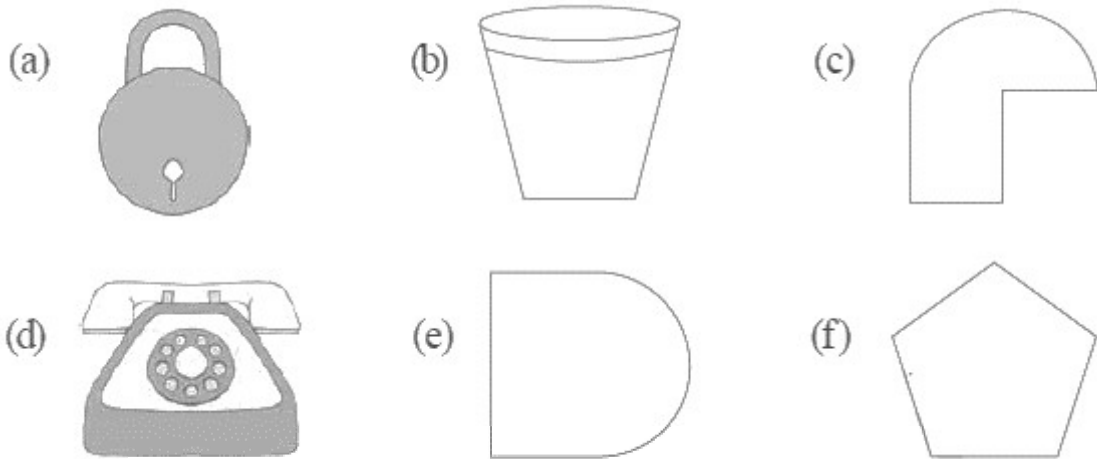
1. How many symmetrical lines do they have?



2. Find in which of the following, the dotted line is a line of symmetry.

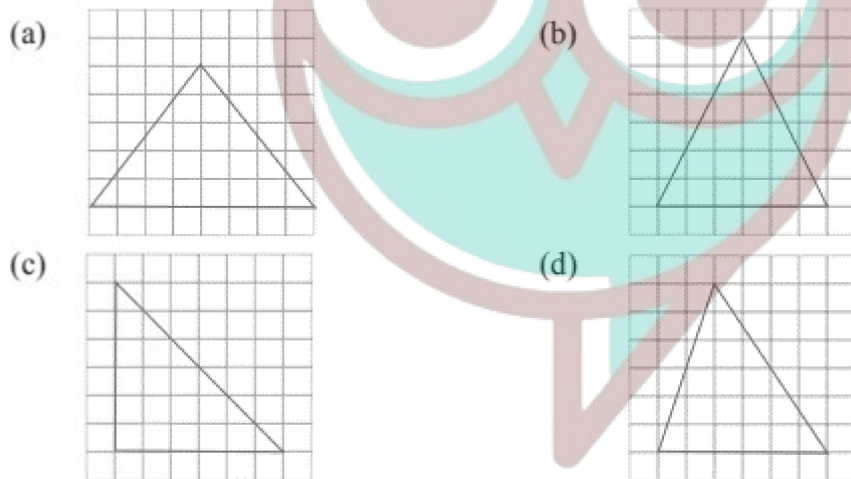


3. How many lines of symmetry does (a) a rectangle (b) a square (c) a parallelogram have? What about right angled triangle?
4. Show by figure the English alphabets which look the same in their reflected image.
5. Identify the shapes given below. Check whether they are symmetric or not. Draw the line of symmetry as well.



Long Questions:

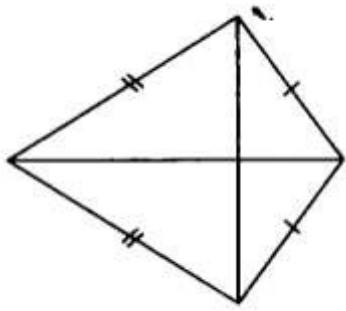
1. Copy the triangle in each of the following figures on squared paper. In each case, draw the line(s) of symmetry, if any and identify the type of triangle. (Some of you may like to trace the figures and try paper-folding first!)



2. Can you draw a triangle which has
 - (a) exactly one line of symmetry?
 - (b) exactly two lines of symmetry?
 - (c) exactly three lines of symmetry?
 - (d) no lines of symmetry
3. Consider the letters of English alphabets, A to Z. List among them the letters which have
 - (a) vertical lines of symmetry (like A)
 - (b) horizontal lines of symmetry (like B)
 - (c) no lines of symmetry (like Q)

Assertion and Reason Questions:

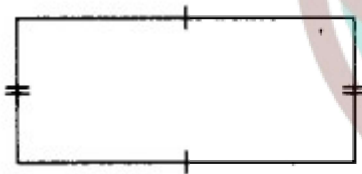
1.) Assertion (A) –



Reason (R) – The *symmetry* of an object is defined as one half of the object is a mirror image of the other half

- 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

2.) Assertion (A) –



Reason (R) – The *symmetry* of an object is defined as one half of the object is a mirror image of the other half

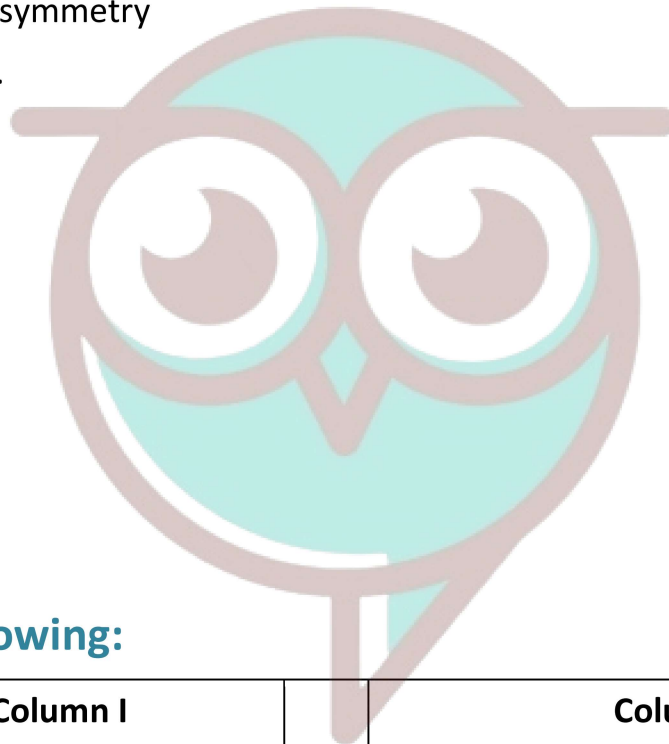
- a) Both A and R are true and R is the correct explanation of A
- b) Both A and R are true but R is not the correct explanation of A
- c) A is true but R is false
- d) A is false but R is true



ANSWER KEY -

Multiple Choice questions:

1. (a) 1
2. (b) 2
3. (d) 4
4. (c) 3
5. (a) 1
6. (d) no line of symmetry
7. (d) Countless.
8. (a) 0
9. (b) 2
10. (d) 6
11. (a) C
12. (d) E.
13. (c) D
14. (d) T.
15. (d) M.



Match The Following:

	Column I		Column II
1.	Taj Mahal	B.	Symmetric Monument
2.	Scissor	D.	One line of symmetry
3.	Letter 'l'	A.	Horizontal & Vertical
4.	Scalene triangle	C.	No line of symmetry

Fill in the blanks:

1. The geometrical figure **Rectangle or Rhombus** has 2 lines of symmetry.
2. The alphabet 'A' has **Vertical-One** line of symmetry.
3. The circle has **Infinite** line of symmetry.
4. The flower which has lines of symmetry is **Sunflower**.

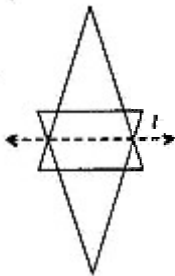
True /False:

1. False
2. False
3. True
4. True

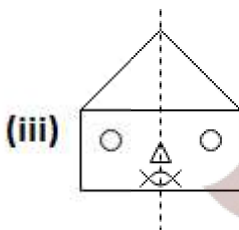
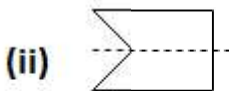
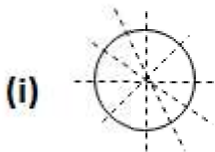
Very Short Answer:

1. Gram and moong
2. Another name of line of symmetry is axis of symmetry.
3. The letters O, M, H, T, V and X look the same after reflections because these letters have 1 vertical line of symmetry.

4.



5.



6. Yes, all the butterfly have the line of symmetry.
Rough figure and axis of symmetry is as follows:

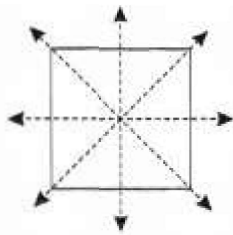




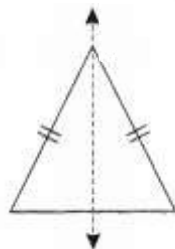
7. Symmetry refers to the exact match in shape and size between two halves of an object. It shows the proportional. There are three types of symmetry-
 - (i) Line of symmetry or axis of symmetry
 - (ii) Mirror symmetry
 - (iii) Rotational symmetry
8. The 4 English letters having no line of symmetry are: P, F, G and Z.
9. The required letters are:
E, B, C, D, K
10. The required English letters are A, H, I, M

Short Answer:

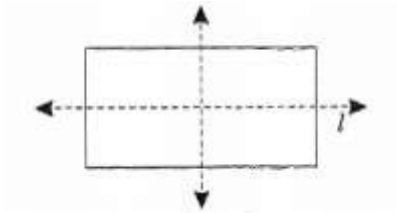
1. (a) The figure is a square. It has 4 lines of symmetry.



- (b) It is an isosceles triangle. It has one vertical line of symmetry.

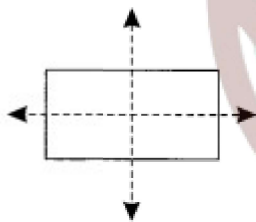


- (c) The given figure is a rectangle which has two lines of symmetry.

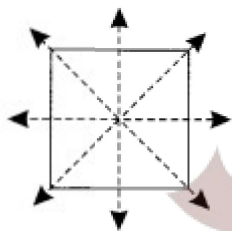


2. (a) The dotted line is a line of symmetry.
- (b) The dotted line is a line of symmetry.
- (c) The dotted line is not a line of symmetry.
- (d) The dotted line is not a line of symmetry.
- (e) The dotted line is a line of symmetry.
- (f) The dotted line is a line of symmetry

3. (a) Rectangle has two lines of symmetry
 - (i) Horizontal
 - (ii) Vertical



- (b) Square has four lines of symmetry.
 - (i) 1 horizontal
 - (ii) 1 vertical
 - (iii) 2 diagonally



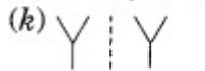
- (c) Parallelogram has no lines of symmetry



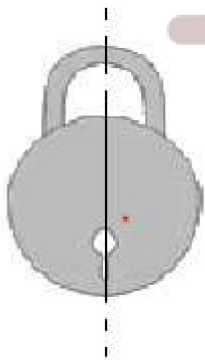
Right angled triangle has no line of symmetry.



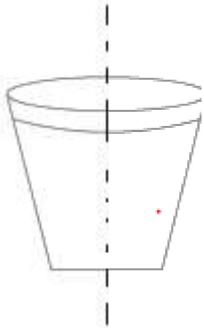
4.



5. (a) This is symmetrical



(b) This is symmetrical



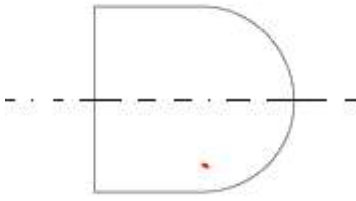
(c) This is not symmetrical

(d) This is symmetrical

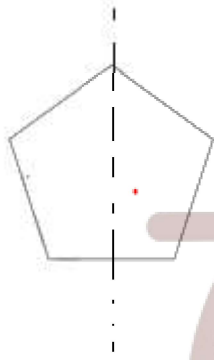


(e) This is not symmetrical



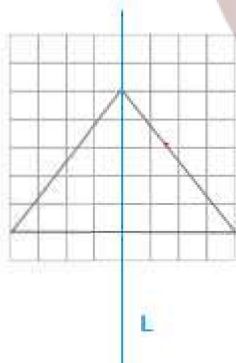


(f) This is symmetrical

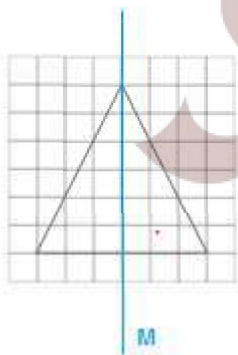


Long Answer:

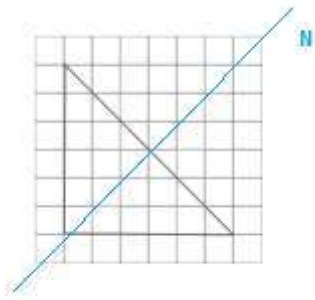
- (a) This figure has line of symmetry as L



- (b) This figure has line of symmetry as M



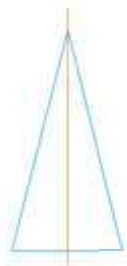
- (c) This figure has line of symmetry as N



(d) There is no line of symmetry

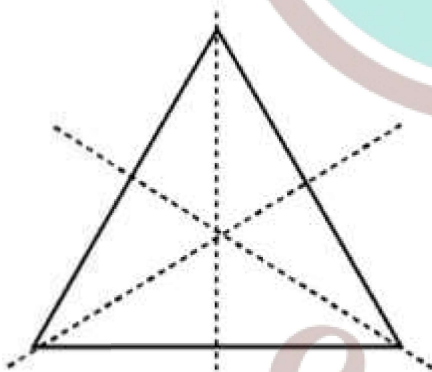
2. (a) Isosceles Triangle

Number of lines of Symmetry: 1

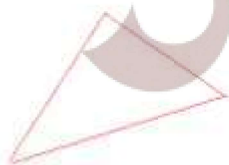


(b) It is not possible to draw which has two lines of symmetry

(c) Equilateral Triangle



(d) Scalene triangle where all sides are different



3. a) A,H,I,M,O,T,U,V,W,X,Y

b) B,C,D,E,H,I,K,O,X

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

Assertion and Reason Answers:

1) a) Both A and R are true and R is the correct explanation of A

2) a) Both A and R are true and R is the correct explanation of A