EXERCISE   **PAGE: 136**
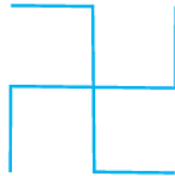
In questions 1 to 17, out of the given four options, only one is correct. Write the correct answer.

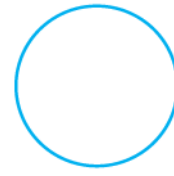**1. In the following figures, the figure that is not symmetric with respect to any line is:**

| (i) | (ii) | (iii) | (iv) |

(A) (i)   **(B) (ii)**   **(C) (iii)**   **(D) (iv)**

Solution:-

(B) (ii)

A figure is said to have line symmetry, if by folding the figure along a line, the left and right parts of it coincide exactly. The line is called the line (or axis) of symmetry of the figure.

2. The number of lines of symmetry in a scalene triangle is

(A) 0   **(B) 1**   **(C) 2**   **(D) 3**

Solution:-

(A) 0

A scalene triangle is a triangle that has three unequal sides.

Therefore, there is no lines of symmetry in a scalene triangle.

3. The number of lines of symmetry in a circle is

(A) 0   **(B) 2**   **(C) 4**   **(D) more than 4**

Solution:-

(D) more than 4

4. Which of the following letters does not have the vertical line of symmetry?

(A) M   **(B) H**   **(C) E**   **(D) V**

Solution:-

(C) E

5. Which of the following letters have both horizontal and vertical lines of symmetry?

(A) X   (B) E   (C) M   (D) K

Solution:-

(A) X

6. Which of the following letters does not have any line of symmetry?

(A) M   (B) S   (C) K   (D) H

Solution:-

(B) S

7. Which of the following letters has only one line of symmetry?

(A) H   (B) X   (C) Z   (D) T

Solution:-

(D) T

8. The instrument to measure an angle is a

(A) Ruler   (B) Protractor   (C) Divider   (D) Compasses

Solution:-

(B) Protractor

An instrument for measuring angles, typically in the form of a flat semicircle marked with degrees along the curved edge.

9. The instrument to draw a circle is

(A) Ruler   (B) Protractor   (C) Divider   (D) Compasses

Solution:-

(D) Compasses

The instrument to draw a circle is compasses.

10. Number of set squares in the geometry box is

(A) 0   (B) 1   (C) 2   (D) 3

Solution:-

(C) 2

11. The number of lines of symmetry in a ruler is

(A) 0   (B) 1   (C) 2   (D) 4

Solution:-

(C) 2

We know that, ruler has shape of rectangle,

So, the number of lines of symmetry in a ruler is 2.

12. The number of lines of symmetry in a divider is

(A) 0   (B) 1   (C) 2   (D) 3

Solution:-

(B) 1

The number of lines of symmetry in a divider is 1.

13. The number of lines of symmetry in compasses is

(A) 0   (B) 1   (C) 2   (D) 3

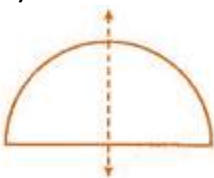Solution:-

(A) 0

Therefore, there is no lines of symmetry in a compasses.

14. The number of lines of symmetry in a protractor is

(A) 0   (B) 1   (C) 2   (D) more than 2

Solution:-

(B) 1

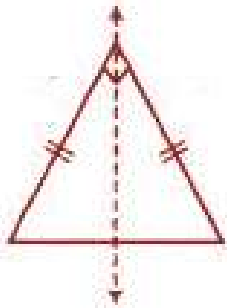Therefore, there is only one lines of symmetry in a protractor.

15. The number of lines of symmetry in a 45⁰ – 45⁰ – 90⁰ set-square is
(A) 0   **(B) 1**   **(C) 2**   **(D) 3**
Solution:-
(B) 1
From the question it is given that, measurement of isosceles triangle.
So, the number of lines of symmetry in given set-square is 1.

16. The number of lines of symmetry in a 30⁰ - 60⁰ - 90⁰ set square is
(A) 0   **(B) 1**   **(C) 2**   **(D) 3**
Solution:-
(A) 0
From the question it is given that, measurement of scalene triangle.
So, the number of lines of symmetry in given set-square is 0.

17. The instrument in the geometry box having the shape of a triangle is called a
(A) Protractor   **(B) Compasses**
(C) Divider   **(D) Set-square**
Solution:-
(D) Set-square

In questions 18 to 42, fill in the blanks to make the statements true.
18. The distance of the image of a point (or an object) from the line of symmetry
(mirror) is _____ as that of the point (object) from the line (mirror).
Solution:-
The distance of the image of a point (or an object) from the line of symmetry (mirror) is
<u>same</u> as that of the point (object) from the line (mirror).

19. The number of lines of symmetry in a picture of Taj Mahal is _____.

Solution:-
The number of lines of symmetry in a picture of Taj Mahal is <u>one</u>.

20. The number of lines of symmetry in a rectangle and a rhombus are _____ (equal/unequal).
Solution:-
The number of lines of symmetry in a rectangle and a rhombus are <u>equal</u>.

21. The number of lines of symmetry in a rectangle and a square are_____ (equal/unequal).
Solution:-
The number of lines of symmetry in a rectangle and a square are <u>unequal</u>.

22. If a line segment of length 5cm is reflected in a line of symmetry (mirror), then its reflection (image) is a _____ of length _____.
Solution:-
If a line segment of length 5cm is reflected in a line of symmetry (mirror), then its reflection (image) is a <u>line segment</u> of length <u>5cm</u>.

23. If an angle of measure 80° is reflected in a line of symmetry, then the reflection is an _____ of measure _____.
Solution:-
If an angle of measure 80° is reflected in a line of symmetry, then the reflection is an <u>angle</u> of measure <u>80°</u>.

24. The image of a point lying on a line l with respect to the line of symmetry l lies on _____.
Solution:-
The image of a point lying on a line l with respect to the line of symmetry l lies on <u>line l</u>.

25. In Fig. 9.10, if B is the image of the point A with respect to the line l and P is any point lying on l, then the lengths of line segments PA and PB are _____.
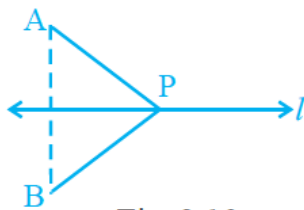

Fig. 9.10

Solution:-

In Fig. 9.10, if B is the image of the point A with respect to the line l and P is any point lying on l, then the lengths of line segments PA and PB are <u>equal</u>.
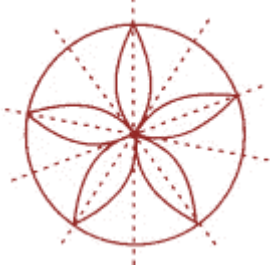
26. The number of lines of symmetry in Fig. 9.11 is_____.

Fig. 9.11

Solution:-

The number of lines of symmetry in Fig. 9.11 is <u>5</u>.

27. The common properties in the two set-squares of a geometry box are that they have a _____ angle and they are of the shape of a _____.
Solution:-
The common properties in the two set-squares of a geometry box are that they have a <u>right</u> angle and they are of the shape of a <u>triangle</u>.

28. The digits having only two lines of symmetry are_____ and _____.
Solution:-
The digits having only two lines of symmetry are <u>0</u> and <u>8</u>.

29. The digit having only one line of symmetry is _____.
Solution:-
The digit having only one line of symmetry is <u>3</u>.

30. The number of digits having no line of symmetry is_____.
Solution:-

The number of digits having no line of symmetry is 7.
The digits having no line of symmetry are 1 4, 5, 6, 7 and 9