MATHS

BOOKS - VGS PUBLICATION-BRILLIANT

EXPLORING GEOMETRIC FIGURES

Example

1. In the adjacent figure $\triangle$ ABC~ $\triangle$ PQR,and

$\angle$C= 53°. Find the side PR and $\angle P$.

▶ **Watch Video Solution**

2. Draw two squares of different sides. Can you say they are similar? Explain. Find the ratio of their perimeters and areas. What do you observe?

▶ **Watch Video Solution**

3. Jagadeesh tried to estimate the height of a tree by covering the height with a vertical scale holding it at a distance of 50 cm from his

eyes along horizontal line. If the scale measurement of the tree is 15 cm and distance of the tree from Jagadeesh is 50m. Find the actual height of the tree.

> ▶ **Watch Video Solution**

4. Draw a triangle on a graph sheet and draw its dilation with scale factor 3. Are those two figures are similar?

> ▶ **Watch Video Solution**

5. Draw a square on a graph sheet and draw its dilations with scale factors 4 and 5.

▶ **Watch Video Solution**

6. Construct a dilation with scale factor 2, of a triangle using only a ruler and compasses.

▶ **Watch Video Solution**

7. Name five pairs of congruent objects,you use daily.

8.

WriteTrue/Falseforthefollowingstatements.Any two congruent figures are similar.

9. Take two similar shapes. If you slide, rotate or flip one of them,does the similarity remain?

▶ **Watch Video Solution**

10. if triangle ABC is simillar to triangle NMO name the congruent sides and angles.

▶ **Watch Video Solution**

11. State whether the following statements are true or false. Explain with reason. (i) Two squares of side 3 cm each and one of them rotated through 45° are congruent.

▶ **Watch Video Solution**

12. State whether the following statements are true or false. Explain with reason.(ii) Any two right triangles with hypotenuse 5 cm, are congruent.

13. State whether the following statements are true or false. Explain with reason. (iii) Any two circles of radii 4 cm each are congruent.

14. State whether the following statements are true. Explain with reason.

Two equilateral triangles of side 4 cm each but

labeled as $\triangle ABC$ and $\triangle LHN$ are not congruent.

> ▶ Watch Video Solution

15. State whether the following statements are true or false. Explain with reason. (v) Mirror image of a polygon iscongruent to the original.

> ▶ Watch Video Solution

1. Draw a polygon on a square dot sheet. Also draw it's congruent figures in different directions and mirror image of it.

▶ **Watch Video Solution**

2. Using a square dot sheet or a graph sheet draw a rectangle and construct a similar figure. Find the perimeter and areas of both

and compare their ratios with the ratio of their corresponding sides.

3. A ladder of 3.9 m length is laid against a wall. The distance between the foot of the wall and the ladder is 1.5 m. Find the height at which the ladder touches the wall.

4. Standing at 5 m apart from a vertical pole of height 3 m, Sudha observed a building behind the pillar and found that tip of the pillar is in line with the top of the building. If the distance between pillar and building is 10 m, estimate the height of the building.[Here height of Sudha is neglected]

▶ **Watch Video Solution**

5. Draw a quadrilateral of any measurements. Construct a dilation-of scale factor 3. Measure their correspond ing sides and verify whether they are similar.

6. What is the relation between order of rotation and number of lines of symmetry of a geometrical figure?

7. How many lines of symmetry does a regular polygon has? Is there any relation between number of sides and order of rotation of a regular polygon?

8. Cut the bold type English alphabets (capital) and paste in your notebook. Draw possible number of lines of symmetry for each of the

letter, How many letters have no line of symmetry?

9. Cut the bold type English alphabets (capital) and paste in your notebook. Draw possible number of lines of symmetry for each of the letter, How many letters have no line of symmetry?

10. Cut the bold type English alphabets (capital) and paste in your notebook. Draw possible number of lines of symmetry for each of the letter, How many letters have no line of symmetry?

11. Cut the bold type English alphabets (capital) and paste in your notebook. Draw possible number of lines of symmetry for each

of the letter, How many letters have more thantwo lines of symmetry?

Watch Video Solution

12. Cut the bold type English alphabets (capital) and paste in your notebook. Draw possible number of lines of symmetry for each of the letter, How many letters have no line of symmetry?

Watch Video Solution

13. Cut the bold type English alphabets (capital) and paste in your notebook. Draw possible number of lines of symmetry for each of the letter, How many letters have one line of , symmetry?

14. Draw lines of symmetry for the following figures. Identify which' of them have point symmetry. Is there any relation between lines of symmetry and point symmetry?(pic)

15. Which of the following has at least one line

of symmetry ?

16. Draw three tessellations and name the

basic shapes used on your tessellation.

17. Oder of rotation of a square

A. 4

B. 6

C. 3

D. 9

Answer:

▶ **Watch Video Solution**

18. Number of symmetric-lines for an Isosceles triangle is _____

A. 1

B. 10

C. 9

D. 6

Answer:

▶ **Watch Video Solution**

19. Number of lines of symmetry for letter 'H' is

_____

A. 4

B. 6

C. 1

D. 2

Answer:

▶ **Watch Video Solution**

20. Order of rotation for a rectangle is

A. 0

B. 6

C. 2

D. 4

Answer:

▶ Watch Video Solution

21. Number of symmetrical lines for letter'O' is

_____

A. 6

B. 3

C. 10

D. Infinite

Answer:

▶ **Watch Video Solution**

22. Rotation is a _____

A. Expression

B. Change

C. Infinite

D. Square

Answer:

▶ **Watch Video Solution**

23. Which letter in English alphabet has more lines of symmetry ?

A. o

B. P

C. Q

D. 1

Answer:

24. Number of lines of symmetry for letter F

A. 3

B. 1

C. 0

D. 9

Answer:

▶ **Watch Video Solution**

25. Number of lines of symmetry for letter R is

A. 1

B. 0

C. 2

D. 4

Answer:

▶ **Watch Video Solution**

26. Number of lines of symmetry for a rectangle is_____

A. 2

B. 3

C. 4

D. None

Answer:

▶ **Watch Video Solution**

27. $\triangle ABC = \triangle MNO$ then AB = _____

A. Mn

B. NO

C. MO

D. None

Answer:

28. Which of the following letter has no line of symmetry?

A. H

B. T

C. Z

D. M

Answer:

▶ **Watch Video Solution**

29. Which of the following figures are congruent pairs ?

A. Ear rings

B. Cycle wheels

C. Two palms

D. All the above

Answer:

▶ **Watch Video Solution**

---

30. $\triangle\,ABC\,=\,\triangle\,DEF,\,\lfloor A\,=\,$ _____

A. $\lfloor F$

B. $\lfloor E$

C. $\lfloor D$

D. None

Answer:

▶ **Watch Video Solution**

31. $\triangle ABC \sim \triangle PQR, \angle A + \angle B = 100°,$

$\angle R=$.........

A. $80°$

B. $60°$

C. $100°$

D. $20°$

Answer:

▶ **Watch Video Solution**

---

32. Order of rotation of a circle is _____

A. 4

B. 3

C. 1

D. Infinite

Answer:

33. Number of lines of symmetry for letter U is

_____

A. 1

B. 2

C. 3

D. 4

Answer:

34. Order of rotation for an equilateral triangle is _____

A. 7

B. 8

C. 2

D. 3

Answer:

35. Sum of the 3 angles in a triangle is _____

A. $160°$

B. $80°$

C. $180°$

D. $30°$

Answer:

---

36. Symbol for 'is congruent to' is ____

    A. $=$

    B. $\cong$

    C. $= \sim$

    D. $=$

Answer:

37. Rotation is a _____

A. $360°$

B. $180°$

C. $190°$

D. $300°$

Answer:

38. Number of lines of symmetry, for a parallelogram is _____

    A. 2

    B. 3

    C. 0

    D. 4

Answer:

▶ Watch Video Solution

39. If a regular polygon contains 'n' sides then the number of lines of symmetry is _____

A. n^2

B. n

C. 2n

D. $\dfrac{n}{2}$

Answer:

▶ Watch Video Solution

40. Which of the following has at least one line of symmetry ?

    A. Honey Bee

    B. Lotus

    C. 8th class Mathematics Text Book

    D. All the above

Answer:

▶ **Watch Video Solution**

41. Number of lines of symmetry for letter w is

_____

A. 9

B. 1

C. 3

D. 2

Answer:

▶ **Watch Video Solution**

42. Which of the following letter has point symmetry ?

A. O

B. X

C. H

D. All the above

Answer:

43. The letter is the following has rotational symmetry is _____

A. D

B. E

C. H

D. All the above

Answer:

44. Number of lines of symmetry for letter N is

_____

A. 1

B. 3

C. 4

D. 0

Answer:

▶ **Watch Video Solution**

45. The letter which has two lines of symmetry

is _____

A. H

B. 1

C. 0

D. All the above

Answer:

 Watch Video Solution

46. Two circles with same radli are _____

A. Similar

B. Congruent

C. Triangles

D. None

Answer:

▶ **Watch Video Solution**

47. To measure the height of long distance objects ____similarity is useful.

A. Triangle

B. Quadrilateral
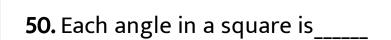
C. Figure

D. None

Answer:

48. The patterns formed by repeating figures to fill a plane without gaps or overlaps are called_____

A. Angles

B. Tessellations

C. 0

D. None

Answer:

▶ Watch Video Solution

49. Symbol for 'Similarity' is _____

    A. ~

    B. $\cong$

    C. =

    D. =

Answer:

▶ **Watch Video Solution**

50. Each angle in a square is_____

A. $60°$

B. $90°$

C. $100°$

D. $99°$

Answer:

▶ **Watch Video Solution**

---

51. Each angle of an equilateral triangle is.............

A. $80°$

B. $70°$

C. $75°$

D. $60°$

Answer:

▶ Watch Video Solution