Hints and Solutions

1. In the given figures all figures are quadrilaterals but figure (3) is a triangle. Therefore, figure (3) is different from other figures.

2. All figures in serial numbers (1), (3) and (4) have two parallel lines drawn horizontally but in figure (2) the parallel lines are drawn vertically, therefore figure (2) is different from other remaining figures.

3. Figures (2), (3) and (4) are similar ie, a small square is drawn in a big square, a small triangle is drawn in a big triangle and a small circle is drawn in a big circle. In figure (1) a small circle is drawn in a big triangle. Therefore, figure (1) is different from other remaining figure.

4. Considering the positions of two black small circles figure (3) is different from other figures.

5. All figures have straight lines but figure (4) has a curved line which is different than the other figure.

6. A small circle has been drawn inside the figures in serial number (1), (2) and (4). But in figure (3) a small triangle has been drawn inside the figure (3).

7. Figures in serial numbers (1), (3) and (4) have two figures resembling with English alphabet W drawn separately but in figure number (2) two 'W's have been joined together. Therefore, figure (2) is different.

8. Figures in serial numbers (2), (3) and (4) have proper Swastik sign but in figure number (1) Swastik sign has been drawn incorrectly.

9. In figures at serial numbers (1), (2) and (3) a black circle and a black triangle are moving one part in anti-clockwise direction. In figure number (4) the black circle has been drawn at a wrong place.

10. In all the figure blackened circle at a vertex of a triangle but in figure (2) there the circle has not been blackened.

11. In the problem figure the parallelogram has been drawn at the corner of the base of the triangle. Diagonals are intersecting each other. The same figure is drawn in answer figure (3).

12. In the problem figure a blackened circle is followed by an empty circle. An arrow has been drawn horizontally pointing towards empty circle. The same figure pattern has been repeated in answer figure (2).

13. Clearly, answer figure (3) resembles completely with the problem figure.

14. In problem figure signs of multiplication and addition are drawn under curved loop. Answer figure (4) resembles with the problem figure.

15. In the problem figure two diagonals of a square have been drawn intersecting each other. Mid point of the portion of the diagonals lying between the point of intersection and the upper are joined with two lines with the opposite vertices. The pattern in answer figure (1) resembles with the problem figure.

16. In the given pattern of the problem figure, answer figure (4) resembles completely with the problem figure.

17. Answer figure (3) resembles completely with the given problem figure.

18. In the problem figure the square has been divided into four equal parts by joining the mid points of the opposite sides. A 'W' type figure has been drawn at the centre of the square. Answer figure (2) resembles with the problem figure.

19. Each quardrant of the circle has a signs of is equal, plus, multiplication and division. Answer figure (1) resembles completely with the problem figure.

20. Answer figure (4) resembles completely with the problem figure.

21. In the given problem figure answer figure (3) will complete the missing part of the problem figure.

22. In the given pattern of the problem figure the missing part of this figure can be filled by answer figure (4) without changing the direction.

23. If we place answer figure (2) without changing its direction, it will complete the missing part to the problem figure.

24. Answer figure (1) will complete the missing part of the problem figure.

25. In the given positions of blackened circle and empty circle. In answer figure (3) will complete the given problem figure.

26. Missing part of the problem figure will be of the same pattern as the figures in its opposite side. Hence, answer figure (2) will complete the missing part of the problem figure.

27. In the given pattern of the problem figure answer figure (2) will complete the design of the missing part of the problem figure.

28. Shift answer figure (1) on the missing part of the problem figure, it will complete the problem figure.

29. In the given problem figure answer figure (3) will complete the missing part of the problem figure.

30. Shift answer figure (2) and put it on the missing part of the problem figure, it will complete the problem figure.

31. In problem figure first and second the empty circle and blackened circle change their positions respectively. Under this rule answer figure (3) should occupy the blank space.

32. In problem figures circles are moving in clockwise direction. Therefore, answer figure (2) will occupy the blank space.

33. In problem figures one small lines are increasing in each problem figure. Therefore, answer figure (4) will occupy in the blank space.

34. Answer figure (1) will occupy the blank space.

35. In the problem figures lines drawn on upper part are not changing the directions of lines drawn in lower part are changing directions. Therefore, answer figure (1) will occupy the blank space.

36. In problem figures a pattern is being formed in which no line, one line and two lines are drawn from the vetex (vertices) of the square joining the circle. Therefore, answer figure (2) will occupy the blank space.

37. In problem figures one small line and a small circle is increasing by one in subsequent figures. Therefore, answer figure (1) will occupy the blank space.

38. Problem figures first, second and third are being turned in clockwise direction. Therefore, answer figure (4) will occupy the blank space.

39. In problem figures the number of small circles are increasing by 1, 3 and 5. Therefore, answer figure (4) will occupy the blank space.

40. In problem figures the number of black shaded circles are increasing by (1) starting from zero. Therefore, answer figure (1) will occupy the blank space.

41. In first two problem figures triangle and circle are changing their places from inside to outside. Similarly, answer figure (3) will occupy the place marked with the sign of interrogation.

42. In the given problem figure first to second each half circle figure turns and goes to the upper section of the perpendicular line. Similar changes are happened in the answer figure (1) to problem figure third.

43. In the given problem figures second figure are getting by deleting the shaded square figure. In the similar way, answer figure (2) will come in the space marked by the sign of interrogation.

44. In problem figure second the shaded square is coming at the upper portion. Similarly, answer figure (3) will occupy the space marked by the mark of interrogation.

45. In the given problem figure first to second, the figure turns two places in the clockwise direction and a shaded part comes in the upper section of the figure. Similarly answer figure (1) will occupy the blank space.

46. We get, second problem figure by deleting half portion of the first problem figure. Obeying this rule answer figure (3) will occupy the blank space.

47. Considering the pattern of interchanging the figures in the problem figures first and second answer figure (4) will occupy the space marked by the sign of interrogation.

48. In problem figures first and second the upper figure and lower figure changes the positions and the middle figure becomes shaded. Answer figure (2) will occupy the blank space marked with the sign of interrogation.

49. In the given problem figure there are three figures a small square, a thin rectangle and a small triangle in first problem figure. In second problem figure, small square changes into a big square and a thin rectangle becomes a small rectangle and comes at the lower side. The small triangle comes on the top without changing the size. Therefore answer figure (2) will occupy the space marked by the sign of interrogation.

50. For getting second problem figure. First problem figure is bisected into two triangles. The second triangle is turned by an angle of 180° and placed by the side of the first triangle, Similarly, in the third figure circle is bisected into two parts. The second circle '⌣' turns 180° and placed by the first circle. Therefore, answer figure (3) will occupy the space marked with the sign of interrogation.

51. The square of the problem figure can be completed by turning the answer figure (2).

52. Answer figure (4) will be the correct figure which complete the square of the problem figure.

53. For completing the square of the problem figure, answer figure (2) should be turned and placed on the square.

54. For completing the square of the problem figure turn answer figure (3) which will complete the square of the problem figure.

55. For completing the problem figures, turn answer figure (2) and put it on the problem figure, we get the complete square of the problem figure.

56. Answer figure (3) will complete the square of the problem figure by shifting and turning.

57. Answer figure (1) should be turned and placed on the problem figure which will complete the square of the problem figure.

58. By shifting answer figure (3) the problem figure will complete the square of the problem figure.

59. Turn answer figure (2) and placed on the square of the problem figure which will complete the problem figure.

60. If we shift answer figure (4) and put it after turning slightly the square of the problem figure will be completed.

62. LCM of 16, 80 and 48

2	16, 80, 48
2	8, 40, 24
2	4, 20, 12
2	2, 10, 6
	1, 5, 3

$$\text{LCM} = 2 \times 2 \times 2 \times 2 \times 5 \times 3$$
$$= 16 \times 15 = 240$$

65. $10.01 = \dfrac{1001}{100} = 1001\%$

68. $93.45 \div 0.015 = \dfrac{93450}{15} = 6230 = 6000$ (approx.)

70. Expression $= 2.5 \div 0.5 \times 0.1 - 0.05$
$$= \dfrac{2.5}{0.5} \times 0.1 - 0.05$$
$$= 5 \times 0.1 - 0.05$$
$$= 0.5 - 0.05 = 0.45$$

72. Volume of a soapcake $= 7 \times 5 \times 2.5$ cu cm
volume of the cardboard box
$$= 56 \times 40 \times 25 \text{ cu cm}$$
Number of cakes that can be put inside the cardboard box
$$= \dfrac{56 \times 40 \times 25}{7 \times 5 \times 2.5} = 640$$

73. 1 cm = 10 mm
1 cu cm = $10 \times 10 \times 10$ cu mm
10 cu cm = $10 \times 10 \times 10 \times 10 = 10000$ cu mm

74. Principal = ₹ 600
$$\text{Time} = \dfrac{8}{12} \text{ yr}$$
Rate = 8%
$$\text{Simple interest} = \dfrac{600 \times 8 \times 8}{12 \times 100}$$
$$= ₹ 32$$
Total amount paid = 600 + 32
$$= ₹ 632$$

75. Cost price of 15 tables = 500×15
$$= ₹ 7500$$
Cost price of 20 chairs = 300×20
$$= ₹ 6000$$
Expenditure on transportation = ₹ 40
Total cost price = 7500 + 6000 + 40
(Including expenditure on transportation)
$$= ₹ 13540$$
Selling price = 380×35
$$\text{Loss} = 13540 - 13300 = ₹ 240$$

76. Area of the shaded portion
$$= 3 \times 1 + 5 \times 1 + 3 \times 1$$
$$= 3 + 5 + 3 = 11 \text{ cm}^2$$

79. Cost of the moped = ₹ 7250
Cost of the scooter = 7250 + 3750
$$= ₹ 11000$$
Total cost of both the vehicles
$$= 11000 + 7250 = ₹ 18250$$

80.

2	37800
2	18900
2	9450
3	4725
3	1575
3	525
5	175
5	35
	7

Prime factorisation
$$= 2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 5 \times 5 \times 7$$