Answers

1.	(4)	**2.**	(3)	**3.**	(2)	**4.**	(1)	**5.**	(1)	**6.**	(1)	**7.**	(3)	**8.**	(2)	**9.**	(2)	**10.**	(1)
11.	(3)	**12.**	(1)	**13.**	(1)	**14.**	(1)	**15.**	(3)	**16.**	(3)	**17.**	(2)	**18.**	(2)	**19.**	(3)	**20.**	(3)
21.	(4)	**22.**	(3)	**23.**	(2)	**24.**	(1)	**25.**	(1)	**26.**	(1)	**27.**	(4)	**28.**	(1)	**29.**	(4)	**30.**	(1)
31.	(2)	**32.**	(2)	**33.**	(4)	**34.**	(4)	**35.**	(2)	**36.**	(1)	**37.**	(3)	**38.**	(3)	**39.**	(4)	**40.**	(4)
41.	(3)	**42.**	(3)	**43.**	(1)	**44.**	(4)	**45.**	(4)	**46.**	(2)	**47.**	(1)	**48.**	(1)	**49.**	(1)	**50.**	(1)
51.	(4)	**52.**	(1)	**53.**	(2)	**54.**	(4)	**55.**	(3)	**56.**	(3)	**57.**	(2)	**58.**	(1)	**59.**	(2)	**60.**	(3)
61.	(4)	**62.**	(4)	**63.**	(1)	**64.**	(3)	**65.**	(4)	**66.**	(3)	**67.**	(2)	**68.**	(4)	**69.**	(3)	**70.**	(2)
71.	(4)	**72.**	(4)	**73.**	(3)	**74.**	(1)	**75.**	(3)	**76.**	(4)	**77.**	(3)	**78.**	(4)	**79.**	(2)	**80.**	(1)
81.	(4)	**82.**	(2)	**83.**	(2)	**84.**	(3)	**85.**	(1)	**86.**	(2)	**87.**	(3)	**88.**	(4)	**89.**	(4)	**90.**	(1)
91.	(3)	**92.**	(2)	**93.**	(2)	**94.**	(2)	**95.**	(2)	**96.**	(3)	**97.**	(2)	**98.**	(1)	**99.**	(2)	**100.**	(3)

Hints and Solutions

1. Except figure (4), all others have four elements.

2. Except figure (3), all others have two small circle and two black point.

3. Except figure (2), all others made by lines.

4. Except figure (1), in all others figures black point is equal distance with other two small circle.

5. Except figure (1), in all others figures small line is equal distance with diagonal and make a right angle triangle.

16. From problem figure (1) to (2) square shape figure rotates 45° clockwise direction and also inner small shape figure rotates 45° anti-clock wise direction. Similarly, answer figure (3) obtain from problem figure (3).

17. From problem figure (1) to (2), arrow shape figure goes to opposite direction. Similarly, answer figure (2) obtain from problem figure (3).

18. From problem figure (1) to (2), are shape figure slipe one step clockwise direction. Similarly, answer figure (2) obtain from problem figure (3).

19. In each step problem figures rotates 90° clockwise direction. So, answer figure (3) obtain from problem figure (3).

20. In problem figures middle element rotates 45° clockwise direction in each step and four corner elements slipes one position clockwise direction in each step. Similarly, answer figure (3) obtain from problem figure (3).

21. From problem figure (1) to (2), some element add in bottom side. Similarly, answer figure (4) obtain from problem figure (3).

22. From problem figure (1) to (2), circle shape element goes to opposite direction and lines on side interchange with each other. Similarly, answer figure (3) obtain from problem figure (3).

23. From problem figure (1) to (2), element rotates 90° anti-clockwise direction. Similarly, answer figure (2) obtain from problem figure (2).

24. From problem figure (1) to (2), bottom side element comes in upper side part and shaded. Similarly, answer figure (1) obtain from problem figure (3) which will shaded from left to right.

25. From problem figure (1) to (2), element divided four equal parts. Similarly, answer figure (1) obtain from problem figure (3).

31. In figure (2), triangle shape element in bottom side.

32. In figure (2), black point element in one side.

33. Except figure (4), all others are divided in four parts but in figure (4) another triangle in inner part.

34. Except figure (4), all other are birds.

35. Except figure (2), all others are tools.

41. From problem figure (1) to (2), shaded figure comes and lines goes to vertical. Similarly, answer figure (3) obtain from problem figure (3).

42. From problem figure (1) to (2), same element comes with inner opposite nature. Similarly, answer figure (3) obtain from problem figure (3).

43. From problem figure (1) to (2), four elements in inner side slips one place clockwise direction. Similarly, answer figure (1) obtain from problem figure (3).

44. From problem figure (1) to (2), one line decrease in upper and lower part. Similarly, answer figure (4) obtain from problem figure (3).

45. From problem figure (1) to (2), figure rotates 90° clockwise direction. Similarly, answer figure (4) obtain from problem figure (3).

52. Required number of cars $= 14 \times 420 = 5880$

53. Required number = 42

$\therefore$ Factors of $42 = 2 \times 3 \times 7$

54. $\frac{61}{10000} = 0.0061$

55. Required time $= 12:05 - 11:55 = 10$ min

58. $1\frac{1}{24} - 1 + \frac{7}{36} = \frac{25}{24} - 1 + \frac{7}{36}$

$$= \frac{1}{24} + \frac{7}{36} = \frac{3+14}{72} = \frac{17}{72}$$

59. Suppose second decimal = x

Then, $x \times 4.01 = 14.837$

$\Rightarrow$ $x = \frac{14.837}{4.01} = 3.7$

60. The next term of series is $\frac{55 \times 55}{3025}$.

61. District population after 1 yr

$$= 2000000 + 2000000 \times 11\%$$

$$= 2000000 + 2000000 \times \frac{1.1}{100}$$

$$= 2000000 + 22000 = 2022000$$

62. Cost price of Radio $= 680 + 120 = ₹\ 800$

$\therefore$ Selling price $= 800 + 120 = ₹\ 920$

63. Area of Rectangle = Length × Breadth

$$= 12 \times 6.5 = 78\,cm^2$$

64. $\because$ 1 kg = 1000 g

$\therefore$ 9 kg $= 1000 \times 9 = 9000$ g

$\because$ Weight of 9 g = 1 coin

$\because$ Weight of 1 g $= \frac{1}{9}$ coin

$\therefore$ Weight of 9000 g $= \frac{1}{9} \times 9000 = 1000$ coin

65. Total number of trees in room

$$= 26 \times 4 = 104$$

$\therefore$ Required number of cups $= 104 \times 2 = 208$

66. Maximum a square is formed in a rectangle.

$\therefore$ Perimeter of square = 100 cm

$$4 \times a = 100 \ (a = \text{side})$$

$\Rightarrow$ $a = \frac{100}{4} = 25$ cm

$\therefore$ Area of rectangle = Area of square

$$= 25 \times 25 = 625\,cm^2$$

67. When, 60 cubes in each row, then

Length of 60 cubes of 1 cm (l) = 20 cm

Breadth of 60 cubes of 1 cm (b) = 1 cm

Height of 60 cubes of 1 cm (h) = 3 cm

$\therefore$ Volume of cuboid $= l \times b \times h$

$$= 20 \times 1 \times 3 = 60\,cm^3$$

69. Simple interest $= \frac{P \times r \times t}{100}$

$$= \frac{20000 \times 10 \times 2}{100} = ₹\ 4000$$

$\therefore$ Amount after 2 yr $= 20000 + 400$

$= ₹\ 24000$

70. Required books,

Mathematics $= 7 \times 10$ [$\because$ One □ = 10 Books]

$= 70$ books

Science $= 8 \times 10 = 80$ books

English $= 9 \times 10 = 90$ books

Hence, subjects Mathematics, Science and English have more than 50 books.

71. $20.08 + 20.008 + 20.008 + 20 = 80.0888$

72. $12 = 1 \times 2 \times 2 \times 3$

$15 = 1 \times 3 \times 5$

$\therefore$ Common factor = 1, 3

73. Required bottles $= \frac{2.85 \times 100 \times 100 \times 100}{300}$

$$= \frac{285 \times 100}{3} = 9500$$

74. $275.0003 \times 3.005 = 826.3759 \cong 825$

75. Cost price of bycycle $= 450 + 50 = ₹\ 500$

and selling price of bycycle = ₹ 600

$\therefore$ Required profit percentage

$$= \frac{\text{Selling price} - \text{Cost price}}{\text{Cost price}} \times 100$$

$$= \frac{600 - 500}{500} \times 100$$

$$= \frac{100}{500} \times 100 = 20\%$$

(1) (2) (3) (4)