Answers

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

Hints and Solutions

1. In each step, whole design rotates 90° clockwise direction.

2. In each step, boy is one step ahead of his previous step.

3. In each step, line rotates 30° anti-clockwise direction.

4. In each step, shaded portion slips 1/4 place clockwise direction.

5. In each step, both designs interchange to each other and small design becomes large and large designs becomes small.

6. Except (4), all other designs have single line.

7. Except (1), all others have three same design.

8. Except (2), all others are single design.

9. Except (1), all others have four diameters.

10. Only tree is a living.

11. In first pair, first is shaded in second figure. Similarly, this rule follows in third figure.

12. In first pair, whole design rotates 90° clockwise direction. Similarly, this rule follows in third figure.

13. In first pair, lower side completes. Similarly, this rule follows in third figure.

14. In first pair, first figure is doubled. Similarly, this rule follows in third figure.

15. In first pair, similar opposite design should be added. Similarly, this rule follows in third figure.

31. Except (3), all other figures have single line.

32. Except (4), all other figures have two dots.

33. Only in figure (4), all three designs are different.

34. Only in figure (4), two designs are same.

35. Only in figure (4), lines are not meet both sides.

41. In each step, whole design rotates 90° clockwise direction.

42. In each step, one circle is deleted and one dot is added.

43. In each step, one line is added in clockwise direction.

44. In each step, one line is added to make a geometrical figure.

45. In each step, one same design is added.

51. Average of 4 numbers = 7.

$\therefore$ Sum of 4 numbers = $4 \times 7 = 28$

Sum of first 3 numbers = 20

Hence, fourth number = $28 - 20 = 8$

52. Let x be taken out.

Then, $\frac{3}{7} - x = \frac{2}{7}$

$\Rightarrow$ $x = \frac{3}{7} - \frac{2}{7}$

$\therefore$ $x = \frac{1}{7}$

53. Area of room = Length × Breadth

$363 = 33 \times$ Breadth

$\Rightarrow$ Breadth $= \frac{363}{33} = 11\text{m}$

54. Monthly saving amount by the boy

$= 20 \times \frac{50}{100} = ₹\,10$

$\therefore$ Annually saving amount $= 10 \times 12 = ₹\,120$

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

$= \frac{500 \times 2 \times 4}{100} = ₹\,40$

56. By option method, when least number 10 subtracted from 413, the resulting number is exactly divisible by 13.

57. $\frac{₹\,150}{₹\,4} = \frac{150}{400} = \frac{3}{8}$

58. Required profit per cent $= \frac{330 - 300}{300} \times 100$

$= \frac{30}{300} \times 100 = 10\%$

59. Square root of $\frac{1}{4} = \sqrt{\frac{1}{4}} = \frac{1}{2}$

60.

2	12, 18, 24
2	6, 9, 12
2	3, 9, 6
3	3, 9, 3
3	1, 3, 1
	1, 1, 1

LCM of 12, 18 and $24 = 2 \times 2 \times 2 \times 3 \times 3$

$= 72$

61. Suppose total property = ₹ x

Then, $x \times \frac{1}{3} = 1500 \Rightarrow x = 1500 \times 3$

$\Rightarrow \quad x = ₹\,4500$

$\therefore \quad \frac{1}{5}$th of the property $= 4500 \times \frac{1}{5} = ₹\,900$

62. Required average $= \frac{6 + 0 + 12 + 14 + 13}{5}$

$= \frac{45}{5} = 9$

63. Man's per day walk $= \frac{45}{3} = 15$ km

$\therefore$ Required number of days to walk 75 km

$= \frac{75}{15} = 5$ days

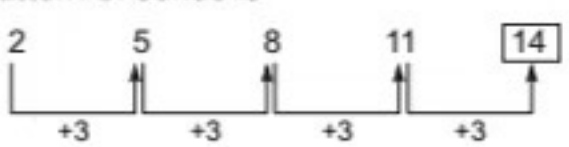
64. From the option, we clearly says that number 4 divides both 16 and 20 exactly.

65. Suppose x times should be added.

Then, $19 \times x = 133$

$\Rightarrow \quad x = \frac{133}{19} \therefore x = 7$

66. The pattern of series is



67. Given, length of the rectangle = 25 m

$\therefore$ Breadth of the rectangle $= 25 \times \frac{3}{5} = 15$ m

$\therefore \quad$ Perimeter of the rectangle $= 2(l + b)$

$= 2(25 + 15)$

$= 80$ m

68. New price of the car $= 500000 \times \frac{(100 - 10)}{100}$

$= 500000 \times \frac{90}{100} = ₹\,450000$

69. $\because 17\% = ₹\,6800$

$\therefore \quad 1\% = \frac{6800}{17} = ₹\,400$

$\therefore \quad$ Expenditure on Education (16%)

$= 400 \times 16 = ₹\,6400$

70. $? \times 120 = 12 \times 10 \div \frac{120}{240}$

$\Rightarrow \quad ? \times 120 = 120 \div \frac{1}{2}$

$\Rightarrow \quad ? \times 120 = 120 \times 2$

$\therefore \quad ? = \frac{120 \times 2}{120} = 2$

71. Surface area of the sphere $= 4\pi r^2$

$\Rightarrow \quad 4\pi r^2 = 3844$

$\Rightarrow \quad 4 \times \frac{22}{7} \times r^2 = 3844 \Rightarrow r^2 = \frac{7 \times 3844}{4 \times 22}$

$\Rightarrow \quad r^2 = 961$

$\therefore \quad r = \sqrt{961} = 31$ cm

72. A's 1day's work $= \frac{1}{10}$

B's 1 day's work $= \frac{1}{12}$

$(A + B)$' 1 day's work $= \frac{1}{10} + \frac{1}{12} = \frac{6 + 5}{60} = \frac{11}{60}$

$\therefore (A + B)$ complete the whole work in $\frac{60}{11}$ days or

$5\frac{5}{11}$ days.

73. 360 km/h $= 360 \times \frac{5}{18}$ m/s

$= 100$ m/s

74. $a : b = 5 : 14$

$b : c = 7 : 3$

$\therefore \quad a : b : c = 5 \times 7 : 14 \times 7 : 14 \times 3$

$= 35 : 98 : 42 = 5 : 14 : 6$

75. $(256)^{3/4} = (4^4)^{3/4} = 4^{4 \times \frac{3}{4}} = 4^3 = 64$