CREST Olympiads

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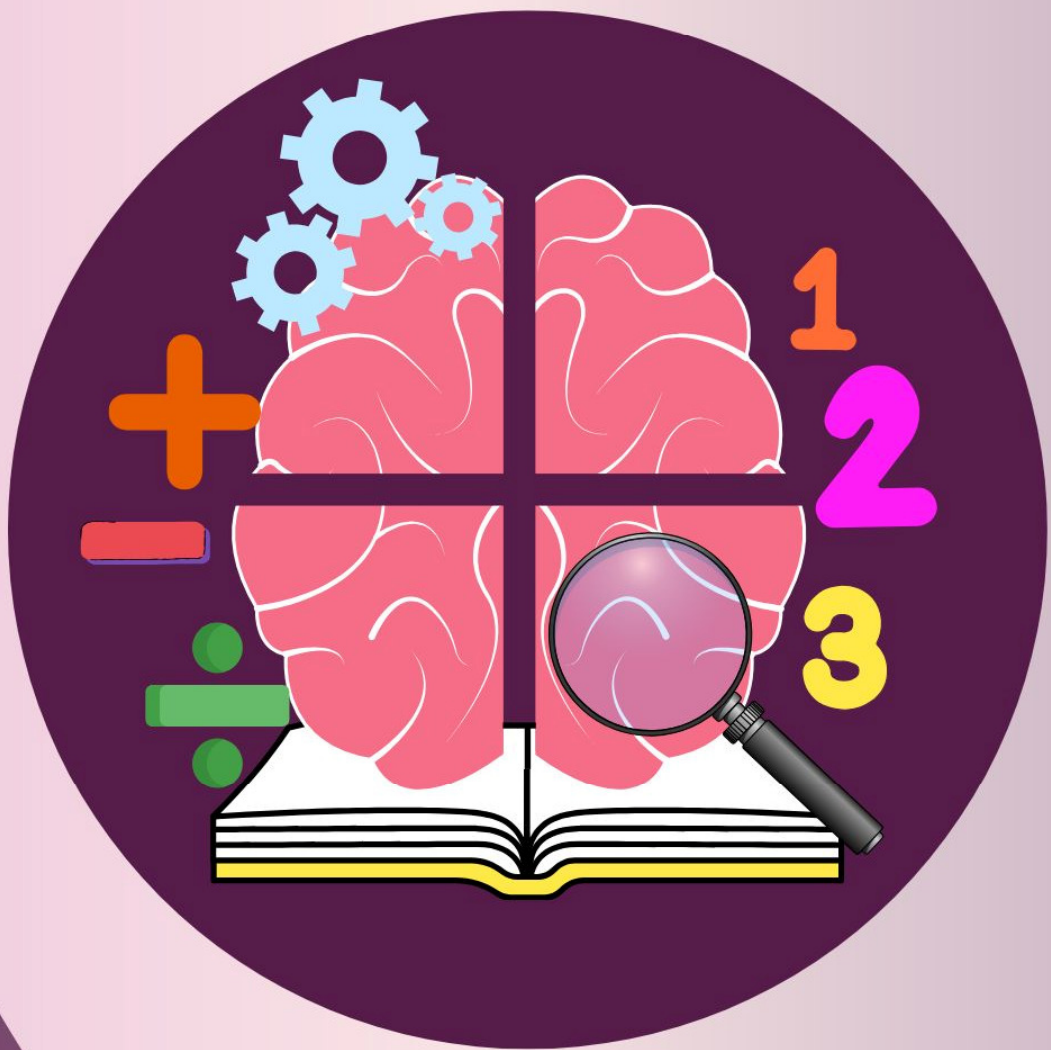
MENTAL MATHS WORKBOOK

For the preparation of National & International Competitions

- Chapter-wise practice exercises
- Previous year paper

CREST Mental Maths Olympiad (CMMO)

Mental Maths Competitions

Preparation Book

Grade 4

CREST
Olympiads

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CREST Mental Maths Olympiad (CMMO) Workbook for Grade 4

First Edition

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Preface

We are pleased to launch first edition of this workbook. We welcome feedback from students, teachers, educators and parents. For improvements in the next edition, please send your suggestions at info@crestolympiads.com. Our team will make an effort to work on those suggestions.

CREST Olympiads is one of the largest Olympiad Exams with students from more than 60 countries. The objective of these exams is to build a competitive spirit while evaluating students on conceptual understanding of the concepts.

We strive to provide a superior learning experience, and this workbook is designed to complement the school studies and prepare the students for various competitive exams including the CREST Olympiads. This workbook provides practice questions on the topics. These questions encourage the students to think analytically, to be creative and to come up with solutions of their own. There is a previous year's paper given at the end of this workbook for the students to attempt after completing the syllabus. This paper should be attempted in 1 hour to get an assessment of the student's preparation for the final exam.

Publishers

Chapter 1

Numbers and Number Names

1. Find the sum of the place and face value of 5 in 2569.

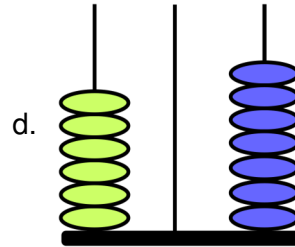   a. 55   b. 50
   c. 505   d. 5005
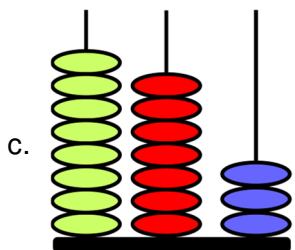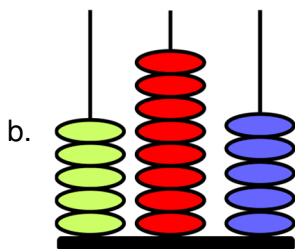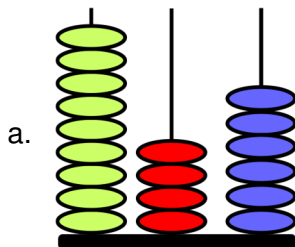
2. Find the largest number that can be formed using digits 0, 5, 2, 1 and 9.

   a. 59210   b. 95210
   c. 95120   d. 95201

3. How much is the successor of 892 smaller than 1001?

   a. 108   b. 100
   c. 109   d. 110

4. Choose the greatest number.

5. What is the correct ascending order of the following numbers?
345, 305, 560, 206, 832, 906, 108

   a. 108 < 206 < 305 < 345 < 560 < 832 < 906
   b. 108 < 206 < 345 < 305 < 560 < 832 < 906
   c. 906 < 832 < 560 < 305 < 345 < 206 < 108
   d. 906 < 832 < 560 < 345 < 305 < 206 < 108

6. Select the option illustrating the correct use of > sign.

   a. 620 > 650   b. 705 > 700
   c. 236 > 203   d. 330 > 420

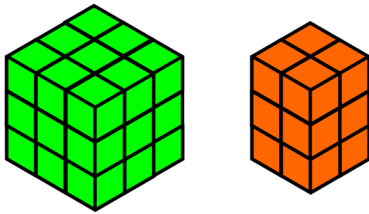**7.** What will come next in the given pattern?
3, 9, 27, 81, ___.

   a. 84   b. 243
   c. 729   d. 162

8. John starts from 190 and skip count backwards by 7, what is the 6th number that he will reach?

   a. 162   b. 184
   c. 176   d. 155

9. Determine the difference in the numbers represented by the given cubes.

a. 8
b. 19
c. 35
d. 20

10. 9 hundreds + 2 ones = _____.

a. 920
b. 92
c. 902
d. 092

11. Identify the number.

Hundreds	Tens	Ones

a. Six hundred sixty nine
b. Six hundred sixty
c. Nine hundred sixty six
d. Six hundred ninety

12. Determine the sum of five consecutive numbers beginning with 13.

a. 58
b. 70
c. 64
d. 75

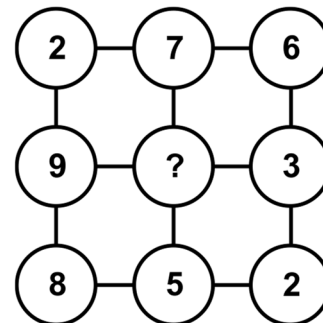**13.** What will come next in the pattern?

a.
b.
c.
d.

14. Determine the number of digits in the number obtained by adding 99 and 1000.

a. 3
b. 2
c. 4
d. 5

15. Find the number that is nine less than six thousand ninety two.

a. 6792
b. 6072
c. 6099
d. 6801

16. What will come in the place of the question mark (?) if the sum of numbers in each row is the same?
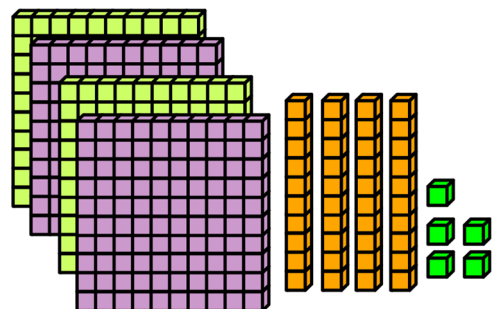

a. 2
b. 3
c. 4
d. 5

17. Which of the following is not an even number that can be formed using the digits 6, 9 and 8?

a. 698
b. 986
c. 896
d. 689

18. What is the sum of the digits of the number represented by the given cubes?

a. 13
b. 9
c. 6
d. 12

19. Which number is obtained by adding 400 to the place value of 5 in 7508?

    a. 900   b. 500
    c. 600   d. 1000

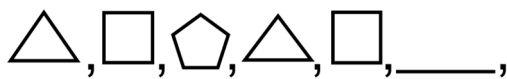**20.** Write the number name for the number that is one hundred less than 857.

    a. Eight hundred seventy-seven
    b. Seven hundred fifty
    c. Seven hundred fifty-seven
    d. Eight hundred seventy-five

21. The following numbers are arranged in ascending order. Determine the wrong number.

    | 224 | 276 | 225 | 267 | 270 |

    a. 267   b. 225
    c. 270   d. 276

22. What is the 6th shape in the pattern:

△, ▢, ⬠, △, ▢, ____,

    a. ▢   b. ⬠

    c. △   d. ◯

23. Determine the smallest 4-digit number that can be formed using the digits 0, 8, 9 and 2.

    a. 0289   b. 8092
    c. 2089   d. 8029

24. Identify the correct statement.

    a. 902 > 990
    b. 4000 + 50 + 6 < 4000 + 400 + 6
    c. Five hundred six > Five hundred twelve
    d. Two less than 1000 > 999

25. Determine the difference between the smallest 3-digit number and the largest 2-digit even number.

    a. 1   b. 2
    c. 4   d. 3

26. What is the place value of 5 in the greatest number among these?
253, 567, 785, 958, 625

    a. 500   b. 5
    c. 50   d. 100

27. A number is smaller than 99 but greater than 95. Also, the number is greater than 97 but smaller than 102. Determine the number.
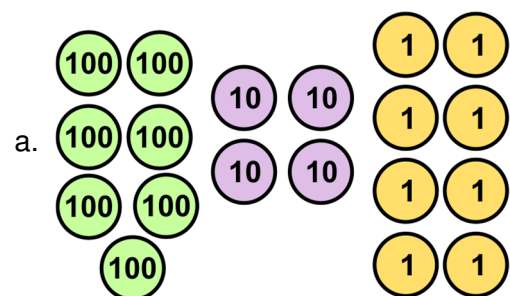
    a. 99   b. 96
    c. 100   d. 98

28. Rachel starts with 975 and counts forwards by 4. What will be the successor of the 4th number that she gets?

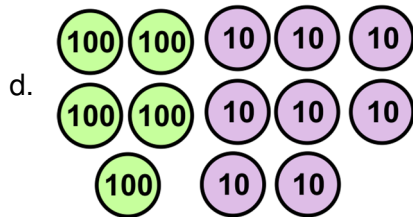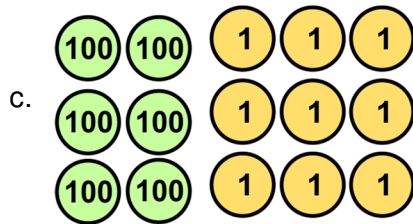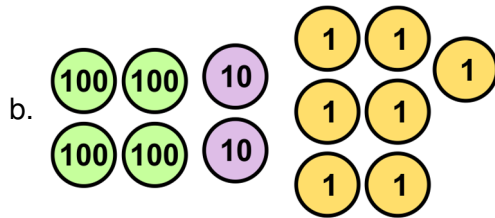   a. 992   b. 987
    c. 988   d. 990

29. How much is the place value of 3 in 6539 more than the face value of 4 in 498?

    a. 10   b. 34
    c. 26   d. 29

30. Select the odd number.

    a.

b.

c.

d.

31. Write the next three letters in the given pattern:
ABABCABABCA _ _ _

  a. BAA   b. BCA
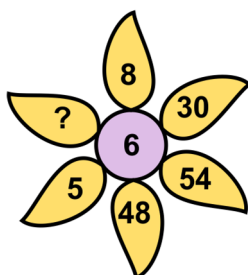 c. ABC   d. BAB

32. How many hundreds, tens and ones are in 569?

  a. 6 hundreds, 5 tens and 9 ones
  b. 5 hundreds, 6 tens and 9 ones
  c. 9 hundreds, 5 tens and 6 ones
  d. 5 hundreds, 9 tens and 6 ones

33. Which of the following is correct?

  a. 2 + 60 + 600 > 670
  b. 400 + 5 = 450
  c. Three hundred five = 3005
  d. 270 - 5 > 200 + 50

34. Study the given pattern and find the missing number.

  a. 7   b. 9
  c. 10   d. 11

35. What will come in place of a, b, c and d, respectively, so that the given list of numbers will be in descending order?

H	T	O
7	a	9
7	5	b
7	c	0
7	2	d

  a. 1, 3, 4, 6   b. 3, 5, 6, 1
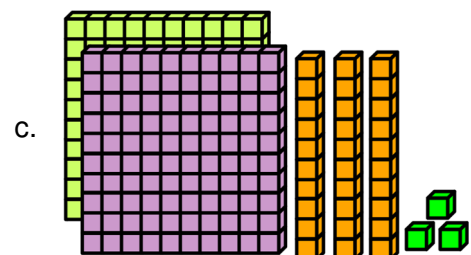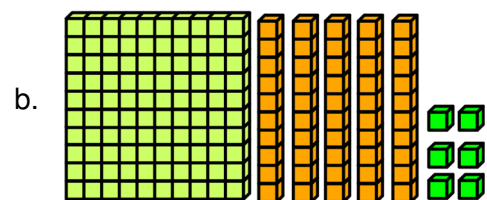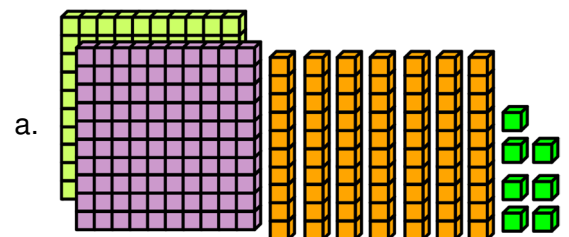 c. 6, 3, 4, 1   d. 1, 4, 3, 6

36. What is the sum of the predecessor of 567 and the successor of 709?
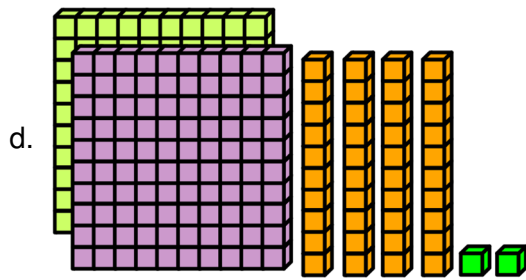
  a. 1277   b. 1276
  c. 1274   d. 1275

37. Find the smallest three-digit even number that can be formed using the digits 2, 5 and 9.

  a. 952   b. 529
  c. 259   d. 592
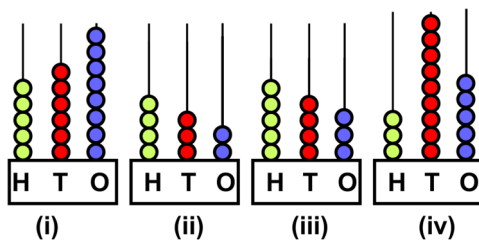
38. Find the second largest number.

a.

b.

c.

d.

39. An egg carton has 8 eggs. If you have 4 of these cartons, how many eggs do you have?

a. 20   b. 32
c. 12   d. 16

40. Determine the place value of the smallest digit in the largest number.

H T O	H T O	H T O	H T O
(i)	(ii)	(iii)	(iv)

a. 3   b. 500
c. 40   d. 300

41. Find the missing number.
402, 394, _____, 378, 370

a. 386   b. 392
c. 380   d. 410

42. Arrange the following numbers in descending order:
468, 498, 478, 508, 488, 518

a. 518 > 508 > 498 > 488 > 478 > 468
b. 468 < 478 < 488 < 498 < 508 < 518
c. 518 > 498 > 508 > 488 > 478 > 468
d. 468 < 478 < 488 < 508 < 498 < 518

43. Write four thousand six hundred eight in expanded form.

a. 4000 + 600 + 8
b. 4000 + 600 + 80
c. 400 + 60 + 8
d. 400 + 80 + 6

44. Find the product of place values of 2 in 2132.

a. 400   b. 20000
c. 2000   d. 4000

45. What will come in the place of the question mark?

| 60 | 120 | 40 | ? |

a. 50   b. 80
c. 100   d. 70

46. What is the smallest 4-digit number with all distinct digits?

a. 1000   b. 1234
c. 1023   d. 1230

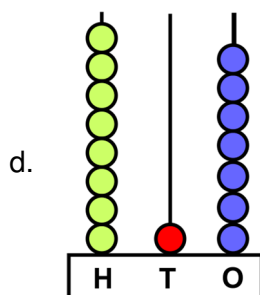**47.** Complete the given pattern.

a.   b.
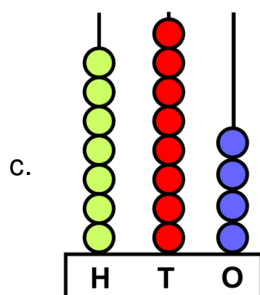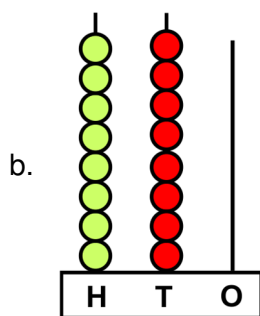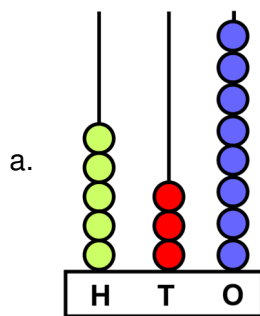
c.   d.

48. 10 thousands = _____ hundreds

a. 10   b. 1000
c. 100   d. 10000

49. Which number is one less than the predecessor of 852?

a. 851   b. 850
c. 849   d. 854

50. Which of the following is not an even number?

a.

b.

c.

d.

51. What will come in the place of c and d in the following table?

a. c = 30; d = 24   b. c = 20; d = 25
c. c = 24; d = 30   d. c = 25; d = 30

52. What place does a 4-digit number start with?

a. Hundreds   b. Thousands
c. Ones   d. Tens

53. Which of the following statements correctly describes the relation between the numbers represented by A and B? Find the relation between A and B.
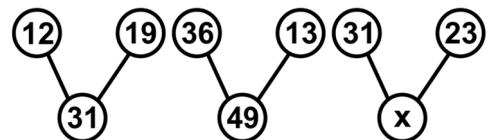A: Predecessor of the smallest 4-digit odd number.
B: Successor of the largest 3-digit number.

a. A < B   b. A = B
c. A > B   d. A = 2 x B

54. Write the expanded form of eight thousand six hundred nine.

a. 800 + 60 + 9   b. 8000 + 600 + 9
c. 8000 + 60 + 9   d. 8000 + 600 + 90

55. What will come in place of X?

12   19 36   13 31   23
  31   49   x

a. 54   b. 18
c. 23   d. 45

56. Which number will come second from the left if the following numbers are arranged in descending order?
326, 306, 350, 329, 381

a. 306   b. 329
c. 381   d. 350

57. Fill in the blank:

a. F35   b. E35
c. E32   d. G34

58. Select the correct mirror image of the following figure.

a.   b.

c.   d.

59. How many 3-digit numbers are there?

a. 999   b. 899
c. 900   d. 1000

60. Fill in the blank:
9 hundreds 60 ones = _____

a. 906   b. 960
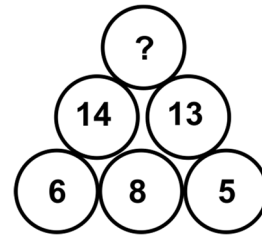c. 9006   d. 690

61. Find the difference in the place values of 8 in the number 8689.

a. 7200   b. 7920
c. 990   d. 790

62. A number is greater than 533, smaller than 536 and is divisible by 2. Find the number.

a. 538   b. 535
c. 532   d. 534

63. What will come in place of the question mark in the given figure?

a. 1   b. 12
c. 27   d. 25

64. Determine the place value of 9 in the predecessor of the number 790.

a. 9   b. 900
c. 90   d. 10

65. Choose the incorrect match.

	Number	Number Name
1.	540	Five hundred forty
2.	608	Six hundred eight
3.	1002	One thousand twenty
4.	932	Nine hundred thirty two

a. 1   b. 3
c. 2   d. 4

66. Which of the following is the correct descending order of the given numbers?
203, 256, 301, 290, 328

a. 328 > 301 > 290 > 256 > 203
b. 328 < 301 < 290 < 256 < 203
c. 203 < 256 < 290 < 301 < 328
d. 328 > 290 > 290 > 301 > 203

67. What will come in place of the question mark?

a. V   b. T
c. S   d. N

68. What should be added to 550 so that it becomes equal to the smallest 4-digit number?

   a. 500   b. 450
   c. 400   d. 375

69. A number has 2 at ones place, 0 at tens place and 9 at hundreds place. Find the number.

   a. 209   b. 902
   c. 920   d. 290

70. How many tens make one thousand?

   a. 1000   b. 10
   c. 100   d. 10000

71. Select the correct option for the following numbers represented by P, Q, R and S.
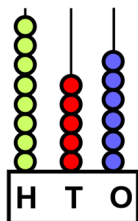P = 596
Q = 839
R = 685
S = 549

   a. P is the greatest number.
   b. Q is the smallest number.
   c. R is the smallest number.
   d. S is the smallest number.
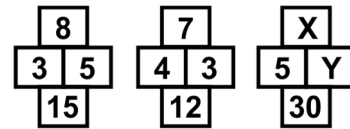
72. Write the number name of the number.

   a. Eight thousand fifty-six
   b. Eight hundred fifty-six
   c. Eight hundred fifty
   d. Eight hundred sixty-five

73. Find the sum of 100 more than 340 and 50 less than 478.

   a. 868   b. 818
   c. 918   d. 768

74. What will come in the place of X and Y?

   a. X = 6; Y = 11   b. X = 5, Y = 6
   c. X = 11; Y = 6   d. X = 10, Y = 12

75. Which of the given numbers has the highest place value of 7?

   a. 7024   b. 2097
   c. 2078   d. 6742

76. I start from 123 and step count forwards by 9. What will be the digit at the ones place of the 4th number that I reach?

   a. 0   b. 9
   c. 2   d. 8

77. Find seven less than the successor of 594.

   a. 587   b. 589
   c. 588   d. 600

78. Fill in the blank:
7 hundreds 15 tens _____ 80 tens 25 ones

   a. >   b. <
   c. =   d. Both b and c

79. Study the following code:

F	L	Y	I	N	G		S	A	U	C	E	R
1	2	3	4	5	6		7	8	9	10	11	12

Write the code for RESCUING.

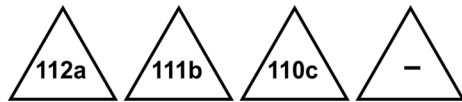   a. 127109456   b. 12117109456
   c. 1211789456   d. 1278109456

80. Which number is two less than the greatest 3-digit number?

   a. 997   b. 998
   c. 996   d. 999

81. What will come next?
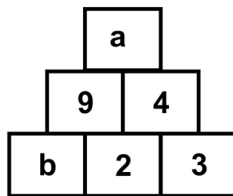

  a. 99d
  b. 109d
  c. 100d
  d. 100f

82. Form the smallest 4-digit odd number using the digits 1, 6, 4 and 9.

  a. 1649
  b. 1469
  c. 9641
  d. 1694

83. Find the values of a and b if the product of numbers in each row is the same.

  a. a = 13; b = 3
  b. a = 6; b = 36
  c. a = 3; b = 13
  d. a = 36; b = 6

84. Write the name of the number that is 10 less than 429.

  a. Four hundred nineteen
  b. Four hundred twenty
  c. Four hundred twenty nine
  d. Four hundred fifteen

85. Which number comes between 654 and 656?

  a. 655
  b. 657
  c. 658
  d. 659

86. One jar contains 10 cookies.

Determine the total number of cookies represented by

.

  a. 100
  b. 120
  c. 12
  d. 1200

87. How much is the place value of 6 in 763 less than 100?

  a. 40
  b. 37
  c. 94
  d. 63

88. Find the missing number in the given pattern.
9, 24, 39, __, 69

  a. 29
  b. 46
  c. 54
  d. 59

89. What is the sum of the place values of 7 in 1776?

  a. 770
  b. 776
  c. 110
  d. 70

90. What will come respectively in the blank spaces?

91. I have 5 hundreds, some tens, and 7 ones. The number is greater than 540 but less than 550. How many tens do I have?

  a. 6
  b. 5
  c. 4
  d. 7

92. Complete the given pattern:
102, 101, 99, 96, 92, 87, 81, _____

  a. 86
  b. 80
  c. 72
  d. 74

93. How many hundreds make 2000?

a. 50 b. 10
c. 20 d. 30

94. Complete the pattern.

28Z   27Y   26X   ?

a. 26W b. 25V
c. 26V d. 25W

95. Find the smallest 4-digit odd number.

a. 1000 b. 1001
c. 9991 d. 1002
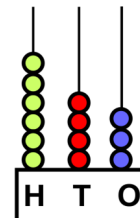
96. What will come next?

Z N Z ?

a. b.
c. d.

97. Find the number of digits in the sum of the successor of 102 and the predecessor of 958.

a. 5 b. 3
c. 4 d. 6

98. Write the digits that have the same place value and face value in 2068.

a. 2, 8 b. 0, 8
c. 0, 2 d. 8, 6

99. Write the name of the number that will be obtained by adding 4 extra beads to the ones place, 5 extra beads to the tens place and 2 extra beads to the hundreds place of the number represented by the following abacus.

H T O

a. Eight hundred forty-seven
b. One thousand ninety-five
c. Six hundred forty-three
d. Eight hundred ninety-seven

100. What will be the next figure in the following pattern?

◯ , ◎ , □ , ...

a. b.
c. d.