CREST
Olympiads

1

MATHEMATICS WORKBOOK

For the preparation of National & International Olympiads

- Chapter-wise practice exercises
- Previous year paper

CREST Mathematics Olympiad (CMO)

Mathematics Olympiad

Exams Preparation Book

CMO | IMO | UMO | iOM | UIMO | HMO

Grade 1

CREST
Olympiads

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CREST Mathematics Olympiad Workbook for Grade 1

Second Edition

Disclaimer: The information in the Workbook is to give you the path to success but it does not guarantee 100% success as the strategy is completely dependent on its execution. And it is based on previous year papers of CMO exam.

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Preface

We are pleased to launch a thoroughly revised 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*.

CREST Olympiads is one of the largest Olympiad Exams with students from more than 25 countries. The objective of these exams is to build 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 a crisp summary of the topics followed by the practice questions. These questions encourage the students to think analytically, to be creative and to come up with solutions of their own. There's a previous year 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

Number Sense

Number

A number is an arithmetic value used for representing the quantity and used in making calculations.

We use digits to represent the numbers. It is a symbol ranging from 0 to 9.

0 1 2 3 4
5 6 7 8 9
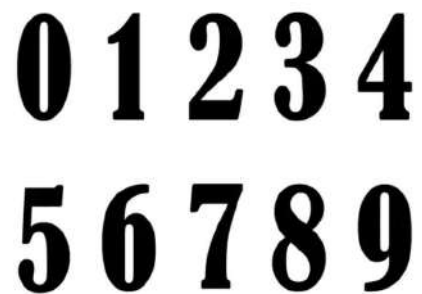
Every day the students come across the activity of counting. Counting can be done only if the student has some idea about the numbers. Numbers are also represented in terms of words.

Let us recognize few numbers

How many apple/s is/are shown below?

Answer: 1

How many boys are shown below?

Answer: 2

How many coins are shown below?

Answer: 3

How many candles are shown below?

Answer: 4

How many stars are shown below?

Answer: 5

How many dots are shown below?

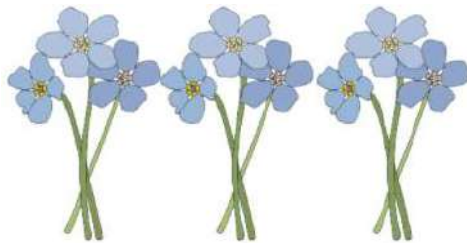Answer: 6

How many colours are shown below?
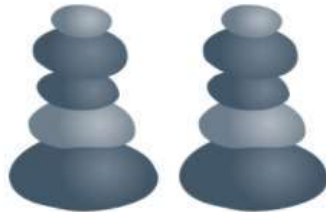

Answer: 7

How many trees are shown below?

Answer: 8

How many flowers are shown below?

Answer: 9

How many stones are shown below?

Answer: 10

One-digit Number

These digits when used alone result in single digit or one-digit numbers.

Starting from 0 and going up to 9.

Two-digit Number

When the digits are used in a combination, they form two digits or bigger numbers.

The smallest two-digit number is 10.

The greatest two-digit number is 99.

Forth Counting

Adding one to the number helps us to obtain the next number.

For example: The number which comes just after 11 is (11 + 1) = 12.

Back Counting

Subtracting one from the number helps us to obtain the previous number.

For example: The number which comes just before 11 is (11 - 1) = 10.

Place Value

It can be defined as the value represented by a digit in a number on the basis of its position in the number.
In a two-digit number, the place value of the ten-place digit is 10 times of the digit.

For example: 92

It can also be written as 90 + 2

9 × 10 + 2

The number at the ten's place is multiplied with 10 and added to the number at the unit's place.

In words, we write it as Ninety-two.

548 can be represented in the form of hundreds, tens and ones.

Place value of 5 = 5 x 100 = 500

Place value of 4 = 4 x 10 = 40
Place value of 8 = 8 x 1 = 8

The smallest three-digit number = 100

The greatest three-digit number = 999

All the numbers from 1 till 100 in words are as follows:

1	One	11	Eleven	21	Twenty-one	31	Thirty-one	41	Forty-one
2	Two	12	Twelve	22	Twenty-two	32	Thirty-two	42	Forty-two
3	Three	13	Thirteen	23	Twenty-three	33	Thirty-three	43	Forty-three
4	Four	14	Fourteen	24	Twenty-four	34	Thirty-four	44	Forty-four
5	Five	15	Fifteen	25	Twenty-five	35	Thirty-five	45	Forty-five
6	Six	16	Sixteen	26	Twenty-six	36	Thirty-six	46	Forty-six
7	Seven	17	Seventeen	27	Twenty-seven	37	Thirty-seven	47	Forty-seven
8	Eight	18	Eighteen	28	Twenty-Eight	38	Thirty-eight	48	Forty-eight
9	Nine	19	Nineteen	29	Twenty-Nine	39	Thirty-nine	49	Forty-nine
10	Ten	20	Twenty	30	Thirty	40	Forty	50	Fifty

51	Fifty-one	61	Sixty-one	71	Seventy-one	81	Ninety-one	91	Ninety-one
52	Fifty-two	62	Sixty-two	72	Seventy-two	82	Ninety-two	92	Ninety-two
53	Fifty-three	63	Sixty-three	73	Seventy-three	83	Ninety-three	93	Ninety-three
54	Fifty-four	64	Sixty-four	74	Seventy-four	84	Ninety-four	94	Ninety-four
55	Fifty-five	65	Sixty-five	75	Seventy-five	85	Ninety-five	95	Ninety-five
56	Fifty-six	66	Sixty-six	76	Seventy-six	86	Ninety-six	96	Ninety-six
57	Fifty-seven	67	Sixty-seven	77	Seventy-seven	87	Ninety-seven	97	Ninety-seven
58	Fifty-eight	68	Sixty-eight	78	Seventy-Eight	88	Ninety-eight	98	Ninety-eight
59	Fifty-nine	69	Sixty-nine	79	Seventy-Nine	89	Ninety-nine	99	Ninety-nine
60	Sixty	70	Seventy	80	Eighty	90	Ninety	100	One-Hundred

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Let us solve some examples related to the topic.

Example 1: Which option contains seven oranges?

a.

b.

c.

d.
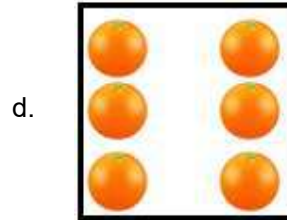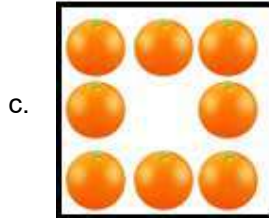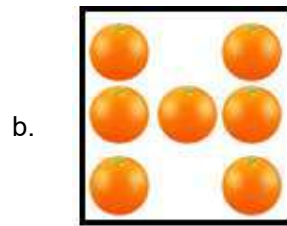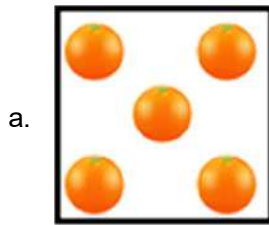
Solution: Correct option is b

Option a has 5 oranges in it.

Option b has 7 oranges in it.

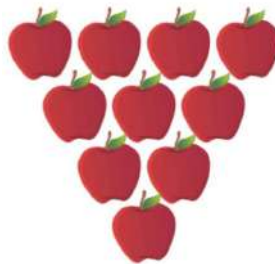Option c has 8 oranges in it.

Option d has 6 oranges in it.

Hence, option b is correct.

Example 2: What is the maximum number of groups of 3 apples that can be formed from the apples given below?
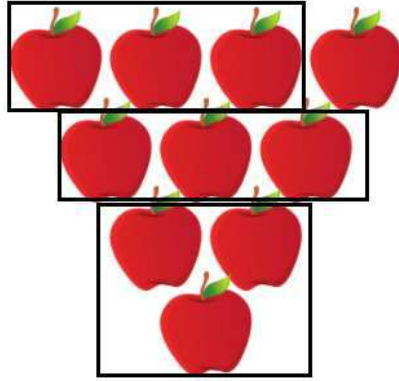

a. 2
c. 3

b. 4
d. 5

Solution: Correct option is c

We can form a maximum of three groups of three apples each.

Since there are 10 apples, one apple will be left and not included in any group.

Hence, option c is the correct answer.

Practice Questions

1. How many buckets are present in the image below?

    a. 1 ten   b. 1 tens + 5 ones
    c. 1 tens + 2 ones   d. 2 tens + 1 ones

2. Match the following:

    a. a – 2, b – 1, c – 3   b. a – 2, b – 3, c – 1
    c. a – 3, b – 2, c – 1   d. a – 3, b – 1, c – 2

3. Which number comes just before 97?

    a. Ninety-eight   b. Ninety-nine
    c. Ninety-five   d. Ninety-six

4. How many balls are present in the figure given below?

    a. Forty   b. Fourteen
    c. Fifteen   d. Thirteen

5. The number of candles on the cake denotes the age of the four friends, A, B, C and D. Who is the eldest of the four?
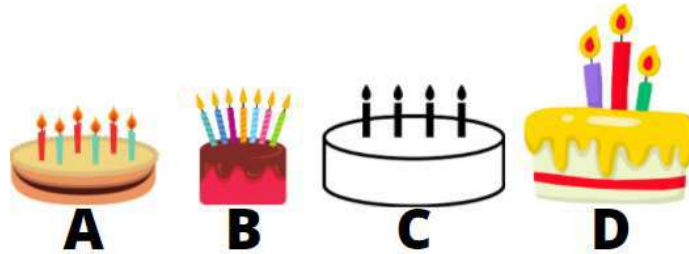
   a. A   b. B
   c. C   d. D

6. How will we represent 87 in words?

   a. Eighty-seven   b. Eight-seven
   c. Eighteen-seven   d. Eight-seventeen

7. How many pairs of eyes are present in the figure given below?

   a. 12   b. 3
   c. 6   d. 8

8. Which number comes just after Forty-Six?

   a. 41   b. 47
   c. 45   d. 44

9. How many oranges will be left out of the given oranges below if we form a group of 4 oranges?

   a. Zero   b. One
   c. Two   d. Three

10. Which of the following options is the correct representation of 49 in terms of tens and ones?

a. 4 tens + 90 ones

b. 40 tens + 9 ones

c. 4 tens + 9 ones

d. 40 tens + 90 ones

11. How many toffees are present in the image given below?

a. 1 tens + 8 ones

b. 10 tens + 8 ones

c. 1 tens + 80 ones

d. 18 tens

12. Which number comes just after Fifty-Nine?
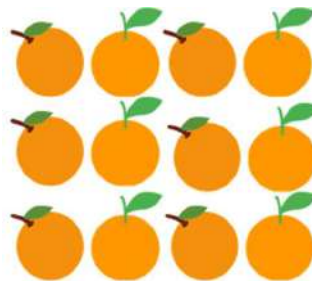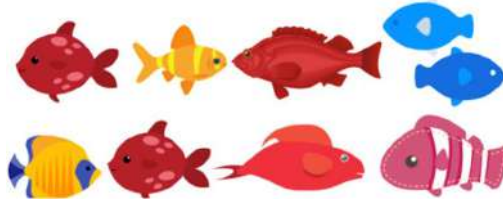
a. 6 tens + 1 ones

b. 5 tens + 8 ones

c. 6 tens

d. 6 tens + 10 ones

13. Which of the following options represents Seventy-two in number?

a. 17

b. 77

c. 79

d. 72

14. How many fishes are present in the image given below?

a. Nine

b. Six

c. One

d. Seven

15. How many frogs will be left out of the given frogs below if we keep 5 frogs in each group?

    a. Zero   b. One
    c. Two   d. Three

16. Which two numbers come just before 81?

    a. Seventy-eight and Seventy-nine   b. Seventy-nine and Eighty
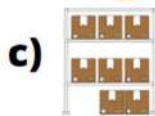   c. Eighty and Eighty-two   d. Eighty-two and Eighty-three

17. Match the following:

    a. a – 1, b – 2, c – 3   b. a – 2, b – 3, c – 1
    c. a – 3, b – 2, c – 1   d. a – 1, b – 3, c – 2

18. Which of the following options represents Ninety-six in number?

    a. 94   b. 93
    c. 96   d. 90

19. How can we represent 77 in words?

    a. Seventeen-seven   b. Seventy-seventeen
    c. Seven-seven   d. Seventy-seven

20. Which of the following options is the correct representation of 86 in terms of tens and ones?

    a. 8 tens + 60 ones   b. 80 tens + 6 ones
    c. 8 tens + 6 ones   d. 80 tens + 60 ones