# CREST Mental Maths Olympiad (CMMO)
# Sample Paper

| Pattern and Marking Scheme | | | | |
|---|---|---|---|---|
| **Grade** | **Topic/Section** | **No. of Questions** | **Marks per Question** | **Total Marks** |
| **Grade 2** | Basique | 40 | 3 | 120 |
| | Avance | 20 | 6 | 120 |
| **Grand Total** | | **60** | | **240** |

The total duration of the exam is 60 minutes.

**Note:** For every incorrect answer, there's a penalty of 1/3rd of the total marks allotted to that question.

# Syllabus

## Number and Number Names

a. Counting objects up to 20 in pictorial form & Pictorial representation using cubes (numbers up to 100)
b. Number names (numbers less than 100)
c. Step counting of 2, 3, 5 and 10 starting from any number (numbers up to 100)
d. Representation in tens and ones up to 100
e. Understand the use of words before, after, successor, predecessor, more than, less than (numbers up to 100)
f. Arranging the given numbers in ascending and descending order (numbers up to 100)
g. Identify and usage of signs >, < and = (numbers up to 100)
h. Abacus representation (numbers up to 100)
i. Use of place value (numbers up to 100)

## Addition and Subtraction

a. Solve problems on number bonds (numbers less than 100)
b. Pictorial representation of addition and subtraction using number line
c. Three digit addition (Problems on pictorial representation, missing numbers, carry over & commutative property of addition on numbers less than 100)

d. Three digit subtraction (Problems on pictorial representation, missing numbers & borrowing on numbers less than 100)

# Multiplication and Division

a. Use of multiplication as repeated addition
b. Use of multiplication tables to solve mathematical statements on multiplication and division (Tables from 2 to 10)
c. Understanding division using grouping and pictorial representation
d. Identify missing number in series - identifying if a certain number is multiples of 2, 3, 5 and 10
e. Concept of half and one-half

# Measurement

a. Conversion of Unit of Measurement - (Length, Weight, Capacity, Time)
b. Money
c. Reading measurement in pictorial problems: Using a ruler, weighing balance, graduated container and clock

# Geometry

a. Identification of horizontal, vertical and curved lines in a given figure
b. Pattern recognition in a shapes series and identifying the next shape in the series
c. Identify and count the number of a particular 2-D shape in a figure (circle, triangle, rectangle and square, etc.)
d. Identify 3-D shapes (cuboid, cube, cone, sphere, cylinder, etc.)

For more details, visit https://www.crestolympiads.com/mental-maths-mmo

**1.** How many donuts are there?

a. **Eleven**

b. **Twelve**

c. **Thirteen**

d. **Fourteen**

**2.** Which of the following is the number name for the successor of 79?

a. Seventy eight

b. Eighty

c. Eighty one

d. Eighty two

**3.** What comes before seventy-eight?

a. 70

b. 76

c. 77

d. 79

**4.** Which of the following shows the correct descending order of numbers?

a. 71 > 7 > 17 > 27

b. 71 > 27 > 17 > 7

c. 71 < 27 < 17 < 7

d. 71 < 17 < 27 < 7

**5.** What is the sum of the place values of number four in the numbers 48, 40, and 34?

a. 40

b. 44

c. 84

d. 88

**6.** Fill in the blank:

$$28 + 16 + 12 = \underline{\quad}$$

a. 44

b. 46

c. 56

d. 58

**7.** Fill in the blank:

$$72 - 35 = \underline{\quad}$$

a. 37

b. 39

c. 47

d. 107

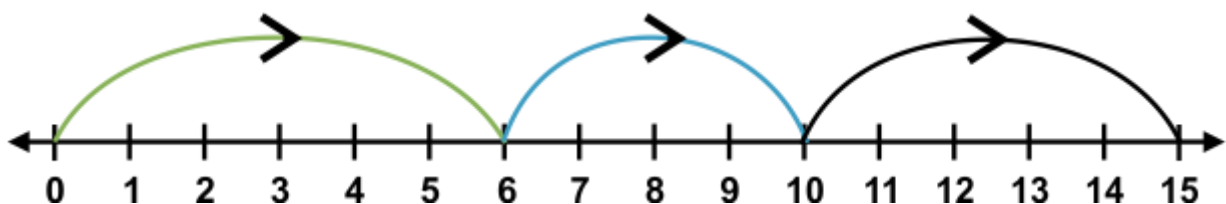**8.** Which of the following is the correct number statement for the given picture?

🔔🔔🔔🔔🔔 + 🔔🔔🔔🔔🔔🔔

a. 5 + 4 = 9

b. 5 + 5 = 10

c. 5 + 6 = 11

d. 6 + 6 = 12

**9.** Find the sum from the number line.

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

a. **6**     b. **10**

c. **12**     d. **15**

**10.** Which of the following shows the result of 63 subtracted from 81?

a. 16     b. 18

c. 19     d. 21

**11.** Fill in the blank:

$$14 + 16 + 27 = \underline{\phantom{XX}} + 14 + 16$$

a. **14**     b. **16**

c. **27**     d. **32**

**12.** What digit will come in the place of X and Y?

```
    X 6
  + 2 5
  _____
    4 Y
  _____
```

a. X = 1, Y = 1     b. X = 2, Y = 1

c. X = 2, Y = 0     d. X = 2, Y = 2

**13.** What is X - Y?

$$\begin{array}{r} Y\,4 \\ -\,4\,6 \\ \hline 2\,X \end{array}$$

a. 0

b. 1

c. 2

d. 3

**14.** Fill in the blank:

$$6 \times 5 = \underline{\hspace{2cm}}$$

a. 6 + 6 + 6

b. 6 + 6 + 6 + 6

c. 6 + 6 + 6 + 6 + 6

d. 6 + 6 + 6 + 6 + 6 + 6

**15.** How many 7s make 35?

a. 3

b. 4

c. 5

d. 6

**16.** There are 3 cars parked in the parking area. How many wheels are there?

a. 4

b. 12

c. 14

d. 16

**17.** How many groups 3 bananas are there?

a. 3

b. 4

c. 6

d. 5

**18.** How many pairs of socks are there?

a. 5

b. 6

c. 7

d. 8

**19.** How many groups of 4 hearts are there?

a. 3

b. 4

c. 5

d. 6

**20.** Which of the following is a multiple of 3?

a. 21

b. 23

c. 25

d. 28

**21.** What will be the next number in the series?

75, 70, 65, 60, ?

a. 50

b. 53

c. 55

d. 57

**22.** What number is half of 60?

a. 10

b. 20

c. 25

d. 30

**23.** Fill in the blank:

$\frac{1}{2}$ of 18 = _____

a. 9

b. 10

c. 11

d. 12

**24.** Which of the following is the correct descending order of the length of the pencils?



a. D > A > B > C

b. D < A < B < C

c. A > D > B > C

d. A < D < B < C

**25.** Which of the following statements is correct based on the volume of liquid in the given picture?



A    B    C    D
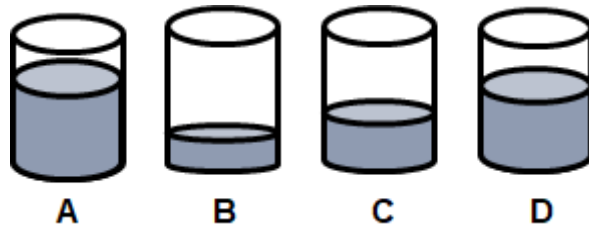
a. D < B < A < C     b. D < B < C < A

c. B < D < C < A     d. B < C < D < A

**26.** Fill in the blank:
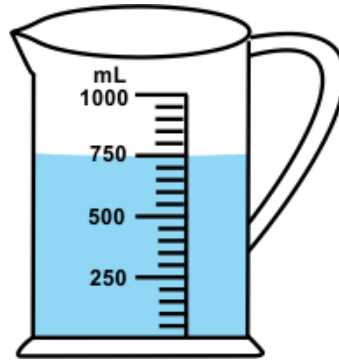The baby weighs _____ balls.



Baby

a. 8     b. 9

c. 10    d. 11

**27.** What is the time shown in the clock?



a. 5:30     b. 6:30

c. 7:30     d. 8:30

**28.** How much amount of liquid is in the container?



a. **500 ml**

b. **650 ml**

c. **750 ml**

d. **1 litre**

**29.** Which of the following is the lightest?
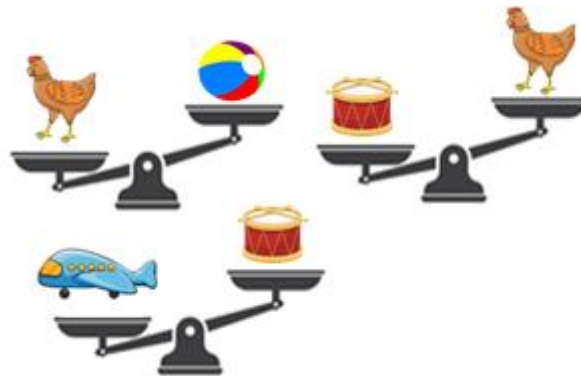


a. 

b. 

c. 

d. 

**30.** If a teddy costs $ 7 and a toy car costs $ 9, what is the total cost?

a. **$12**

b. **$15**

c. **$16**

d. **$18**

**31.** The length of 2 plants A and B is 96 cm and 132 cm respectively. How much taller is plant B than plant A?

a. 32 cm

b. 36 cm

c. 42 cm

d. 46 cm

**32.** What could be the time if you are eating dinner?

a. 8:30 am

b. 8:30 pm

c. 1:00 pm

d. 2:00 pm

**33.** Fill in the blank:

3 hours = ___ minutes

a. 120

b. 160

c. 180

d. 200

**34.** Kathy went to the shopping mall and purchased a bar of chocolate worth 12 cents, a clutch worth 33 cents, and a hair clip worth 10 cents. How much money did he spend in total?

a. 28 cents

b. 30 cents

c. 50 cents

d. 55 cents

**35.** If Julia starts her dance practice at 5:30 pm and practices for one and a half hours, at what time will her dance practice end?
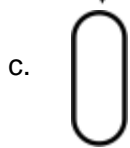
a. 6:30 pm

b. 6:45 pm

c. 7:00 pm

d. 7:15 pm

**36.** Which of the following is made up of only straight lines?

a.

b.

c.

d.

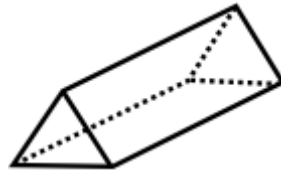**37.** Fill in the blank:

a.

b.

c.

d.

**38.** How many triangles are there?

a. 1

b. 2

c. 3

d. 4

**39.** What is the name of the shape in the given picture?


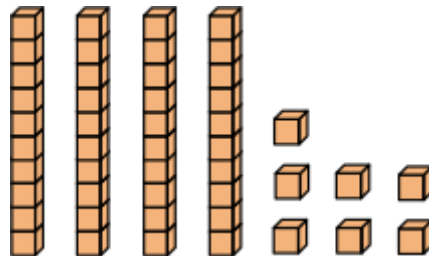
a. Cone

b. Triangular Prism

c. Square Pyramid

d. Sphere

**40.** Which of the following has only one curved surface and no vertices?

a. Cube

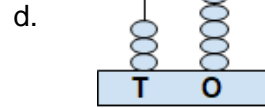b. Cuboid
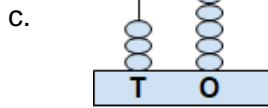
c. Sphere
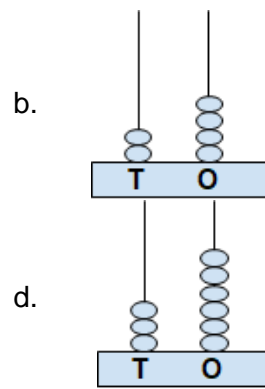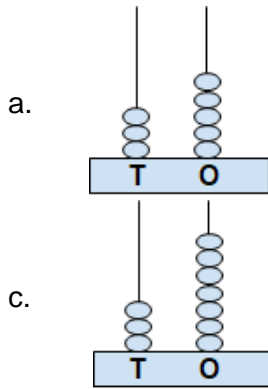
d. Cone

## Avance (Each Question is 6 Marks)

**41.** Fill in the blank:
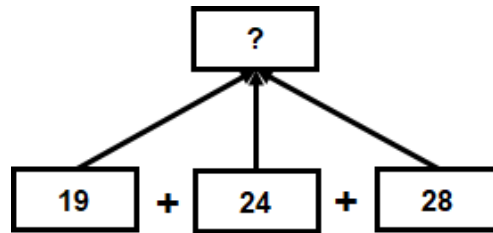The given picture represents ___ tens and ___ ones.



a. Four, Seven

b. Three, Five

c. Four, Six

d. Three, Seven

**42.** Fill in the blank:

a.



b.



c.



d.



**43.** What will come in place of question mark (?)?



```
         ┌─────┐
         │  ?  │
         └─────┘
        ↗   ↑   ↖
┌────┐  ┌────┐  ┌────┐
│ 19 │ +│ 24 │ +│ 28 │
└────┘  └────┘  └────┘
```

a. 59

b. 61

c. 67

d. 71

**44.** What will come in place of X?

```
┌─────┐  +9   ┌─────┐  -19   ┌─────┐  +7   ┌─────┐
│  x  │ ───→  │ 88  │ ────→  │ 69  │ ───→  │ 76  │
└─────┘       └─────┘        └─────┘       └─────┘
```
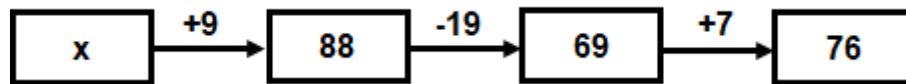
a. 71

b. 75

c. 79

d. 97

**45.** Which of the following is the correct number statement for the given picture?
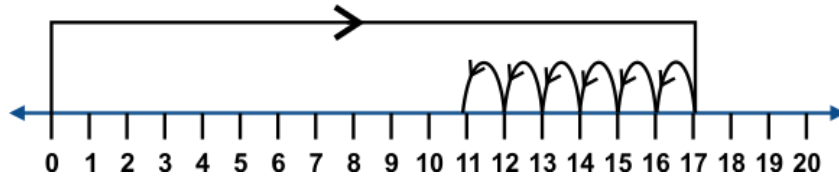


a. $18 - 10 = 8$

b. $18 - 8 = 10$

c. $19 - 8 = 11$

d. $19 - 10 = 9$

**46.** Which of the following is the correct number statement for the given number line?



a. $17 - 6 = 11$

b. $17 - 7 = 10$

c. $17 - 8 = 9$

d. $18 - 6 = 12$

**47.** There are 4 chicks and 2 cows in a farm. How many legs are there?

a. 12

b. 14

c. 16

d. 18

**48.** 32 marbles are equally distributed among 4 children. How many marbles will each child get?

a. 6

b. 7

c. 8

d. 9

**49.** If 17 flowers are equally put into 4 flower vases, how many flowers will be left after maximum flowers are put in each vase?

a. **1**

b. **2**

c. **3**

d. **4**

**50.** Fill in the blank:

2, 4, 8, 16, ___

a. **18**

b. **24**

c. **28**

d. **32**

**51.** If half of a number is 12, what is the number?

a. **6**

b. **16**

c. **24**

d. **28**

**52.** Which of the following statements is true?

Aeroplane    Chair    Pillow    Boat

a. Weight of chair > Weight of boat

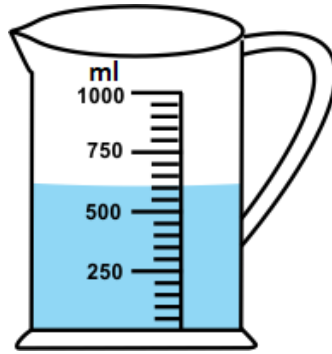b. Weight of pillow > Weight of boat

c. Weight of aeroplane < Weight of boat

d. Weight of pillow < Weight of chair

**53.** Which of the following clock shows quarter to 10?

a.

b.

c.

d.

**54.** How much more than half a litre is there in the container?



a. 50 ml

b. 100 ml

c. 150 ml

d. 200 ml

**55.** Which of the following options could balance the scale?



| 2 cubes | 3 cubes | 4 cubes | 5 cubes |
|---------|---------|---------|---------|
|  |  |  |  |

a. Ball and Teddy bear

b. Teddy bear and Teapot

c. Car and Teapot

d. Teddy bear and Car

**56.** Katherine's weight is 9 kg more than her sister. If Katherine's weight is 32 kg, find her sister's weight.

a. 23 kg

b. 24 kg

c. 43 kg

d. 44 kg

**57.** Sarah leaves her house at the time shown on the clock. It takes 10 minutes for her to reach the park. She plays for an hour and returns home following the same route. At what time did she reach home?



a. 6:00 pm

b. 6:10 pm

c. 6:15 pm

d. 6:20 pm

**58.** Fill in the blank:
The picture has ___ triangles, ___ rectangles, and ___ squares.
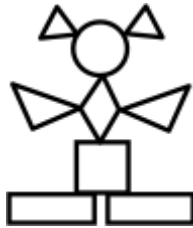


a. 1, 3, 2

b. 2, 3, 2

c. 2, 4, 1

d. 4, 2, 1

**59.** What 3-D shape does the given object resemble?



a. Cylinder

b. Triangular Prism

c. Cuboid

d. Sphere

**60.** I have one flat face that is a circle and a curved face that ends in a point. Who am I?

a. Cube

b. Cuboid

c. Sphere

d. Cone

## Answer Key

| 1. | c | 2. | b | 3. | c | 4. | b | 5. | c | 6. | c | 7. | a |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8. | c | 9. | d | 10. | b | 11. | c | 12. | a | 13. | b | 14. | c |
| 15. | c | 16. | b | 17. | b | 18. | d | 19. | a | 20. | a | 21. | c |
| 22. | d | 23. | a | 24. | a | 25. | d | 26. | c | 27. | b | 28. | c |
| 29. | a | 30. | c | 31. | b | 32. | b | 33. | c | 34. | d | 35. | c |
| 36. | a | 37. | a | 38. | b | 39. | b | 40. | c | 41. | a | 42. | d |
| 43. | d | 44. | c | 45. | b | 46. | a | 47. | c | 48. | c | 49. | a |
| 50. | d | 51. | c | 52. | d | 53. | b | 54. | b | 55. | d | 56. | a |
| 57. | d | 58. | d | 59. | a | 60. | d | | | | | | |