CREST Mental Maths Olympiad (CMMO)
Sample Paper

Pattern and Marking Scheme				
Grade	**Topic/Section**	**No. of Questions**	**Marks per Question**	**Total marks**
Grade 1	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 $\frac{1}{3}$ rd 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

Basique (Each Question is 3 Marks)

1. How many milk bottles are there in the picture?

a. **12**

b. **14**

c. **15**

d. **16**

2. Fill in the blank:
The number name for 17 is _____.

a. Seven

b. Seventeen

c. Seventy

d. Seventy seven

3. What is the predecessor of sixty-nine?

a. **68**

b. **70**

c. **97**

d. **95**

4. Which of the following correctly represents the increasing order of the numbers?

a. **23, 17, 45, 13**

b. **17, 23, 13, 45**

c. **45, 23, 17, 13**

d. **13, 17, 23, 45**

5. What is the place value of 9 in ninety-eight?

a. **0**

b. **9**

c. **90**

d. **99**

6. Fill in the blank:

$$27 - 9 = \underline{\hspace{2cm}}$$

a. **18**

b. **19**

c. **36**

d. **37**

7. Which of the following number statements is correct?
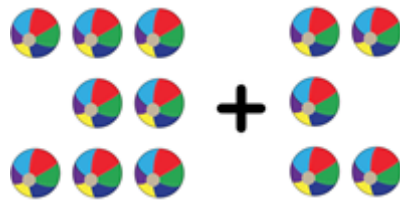
a. $67 + 6 = 72$

b. $58 + 9 = 69$

c. $64 + 7 = 71$

d. $54 + 9 = 64$

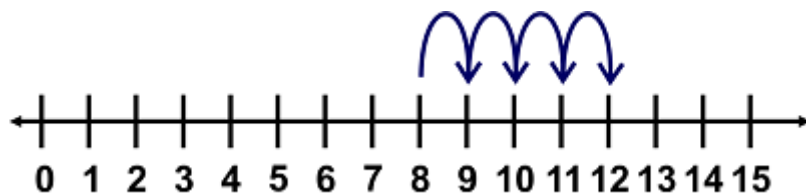**8.** Which of the following number statements describes the given picture correctly?

a. $8 + 4 = 12$

b. $8 + 5 = 13$

c. $9 + 4 = 13$

d. $9 + 5 = 14$

9. Which of the following number statements correctly describes the given number line?

a. $7 + 5 = 12$

b. $9 + 4 = 13$

c. $7 + 6 = 14$

d. $8 + 4 = 12$

10. What is 17 more than 42?

a. **49**　　　　　　　　b. **54**

c. **59**　　　　　　　　d. **63**

11. Which of the following statements is correct?

a. 28 + 19 = 19 + 28　　b. 28 - 19 = 19 - 28

c. 27 - 18 = 17 + 29　　d. 28 + 19 = 19 - 26

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

$$
\begin{array}{r}
4\,X \\
+\,2\,7 \\
\hline
7\,1 \\
\hline
\end{array}
$$

a. **0**　　　　　　　　b. **1**

c. **3**　　　　　　　　d. **4**

13. Find the value of X:

$$
\begin{array}{r}
X\,7 \\
-\,2\,9 \\
\hline
2\,8 \\
\hline
\end{array}
$$

a. **2**　　　　　　　　b. **3**

c. **4**　　　　　　　　d. **5**

14. Fill in the blank:

3 + 3 + 3 + 3 + 3 + 3 = 3 x _____.

a. **4**

b. **5**

c. **6**

d. **7**

15. Which of the given numbers is a multiple of 5?

a. **13**

b. **15**

c. **17**

d. **19**

16. What are 3 times 7?

a. **4**

b. **10**

c. **21**

d. **24**

17. How many groups of 5 flowers can be formed from 15 flowers?

a. **1**

b. **2**

c. **3**

d. **4**

18. 18 candies need to be equally distributed among 3 children. How many candies each child will get?
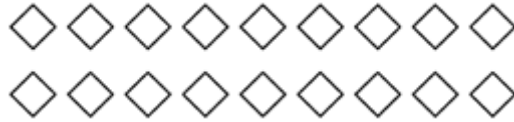
a. **6**

b. **7**

c. **8**

d. **9**

19. How many groups of 2 diamonds can be made from the given picture?

◇◇◇◇◇◇◇◇◇
◇◇◇◇◇◇◇◇

a. **6**

b. **7**

c. **8**

d. **9**

20. Find the missing number in the series.

12, 14, 16, 18, ?

a. **19**

b. **20**

c. **21**

d. **22**

21. Fill in the blank:

10, 20, ___, 40, 50

a. **22**

b. **25**

c. **27**

d. **30**

22. What is half of 18?

a. **7**

b. **8**

c. **9**

d. **10**

23. What number is one-half of 26?

a. 13

b. 14

c. 15

d. 16

24. Which of the following gives the correct ascending order of the lengths of the trains?

a. B < D < A < C

b. B < A < D < C

c. B > D > A > C

d. B > A > C > D

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

a. Liquid in A > Liquid in B

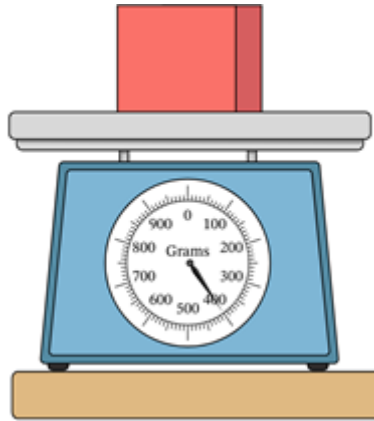b. Liquid in C > Liquid in D

c. Liquid in B < Liquid in D

d. Liquid in C < Liquid in A

26. Fill in the blank:

The length of the crayon is ___ paper clips.

a. 3

b. 4

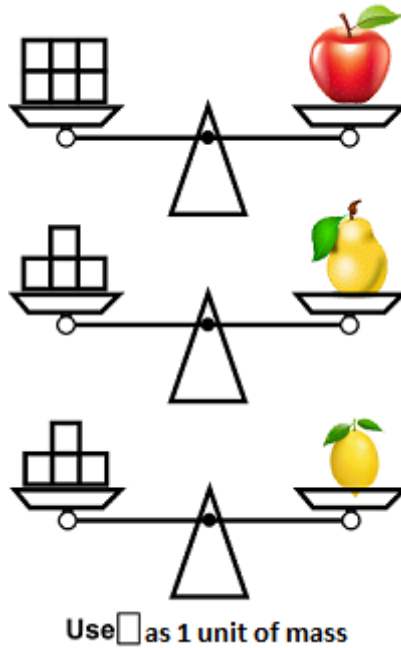c. 5

d. 6

27. What is the mass of the given object?

a. **100 g**

b. **200 g**

c. **300 g**

d. **400 g**

28. How much liquid is present in the graduated cylinder?

a. **300 ml**

b. **400 ml**

c. **450 ml**

d. **500 ml**

29. Which of the following statements is correct based on the given picture?

Use ☐ as 1 unit of mass

a. Apple is the lightest.
c. Pear is the lightest.

b. Pear is the heaviest.
d. Lemon is the lightest.

30. Fill in the blank:

$$4 \text{ km} + 800 \text{ m} = \text{\_\_\_\_ m}$$

a. 48
b. 480
c. 4800
d. 48000

31. Find the value based on the given picture.

120 ml   +   190 ml

a. 210 ml
b. 270 ml
c. 290 ml
d. 310 ml

32. At what time will you go to sleep?

a. 9:00 am

b. 12 noon

c. 6:00 pm

d. 9:30 pm

33. Fill in the blank:

2 days = ___ hrs

a. 12

b. 24

c. 36

d. 48

34. How much money?

a. **1 dimes**

b. **2 dimes**

c. **3 dimes**

d. **4 dimes**

35. What is the elapsed time from the start time to the stop time?

Start   Stop

a. **1 hr 20 minutes** b. **1 hr 30 minutes**

c. **1 hr 40 minutes** d. **30 minutes**

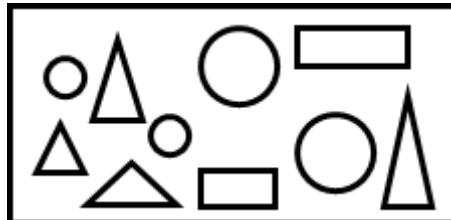**36.** Which of the following is made up of only curved lines?

a.

b.

c.

d.

37. What shape will come next in the pattern?

a.

b.

c.

d.
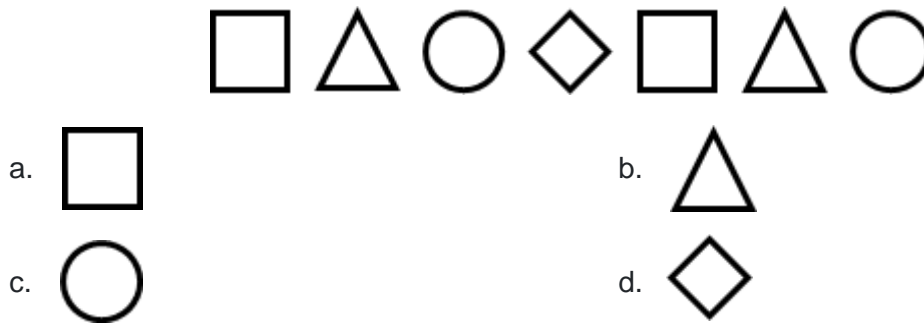
38. Fill in the blank
The picture has ___ circles, ___ rectangles, and ___ triangles.

a. **4, 3, 3**

b. **4, 3, 2**

c. **4, 2, 3**

d. **4, 2, 4**

39. Which of the following is a 3D shape?

a.

b.

c.

d.

40. Which of the following 3-D object has only one circular face?

a.

b.

c.

d.

Avance (Each Question is 6 Marks)

41. Fill in the blank:

$$82 = \underline{\hspace{2cm}} \text{ tens } \underline{\hspace{2cm}} \text{ ones}$$
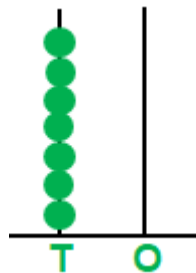
a. 2, 8

b. 1, 8

c. 8, 2

d. 8, 8

42. What is the number represented in the abacus?

a. 7

b. 70

c. 80

d. 90

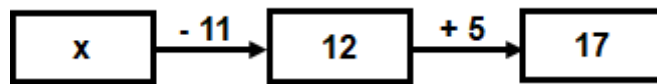**43.** What will come in place of the question mark (?) in the given figure?

| ? |
| 12 | + | 17 |
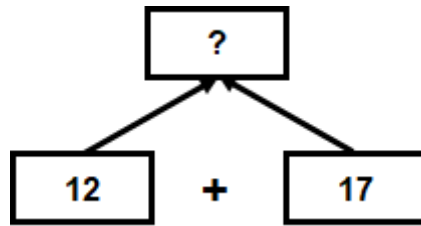
a. **29** b. **30**

c. **39** d. **49**

44. What is the value of X?

| X | -11→ | 12 | +5→ | 17 |

a. **19** b. **20**

c. **21** d. **23**

45. Which of the following number statements is correct regarding the given picture?
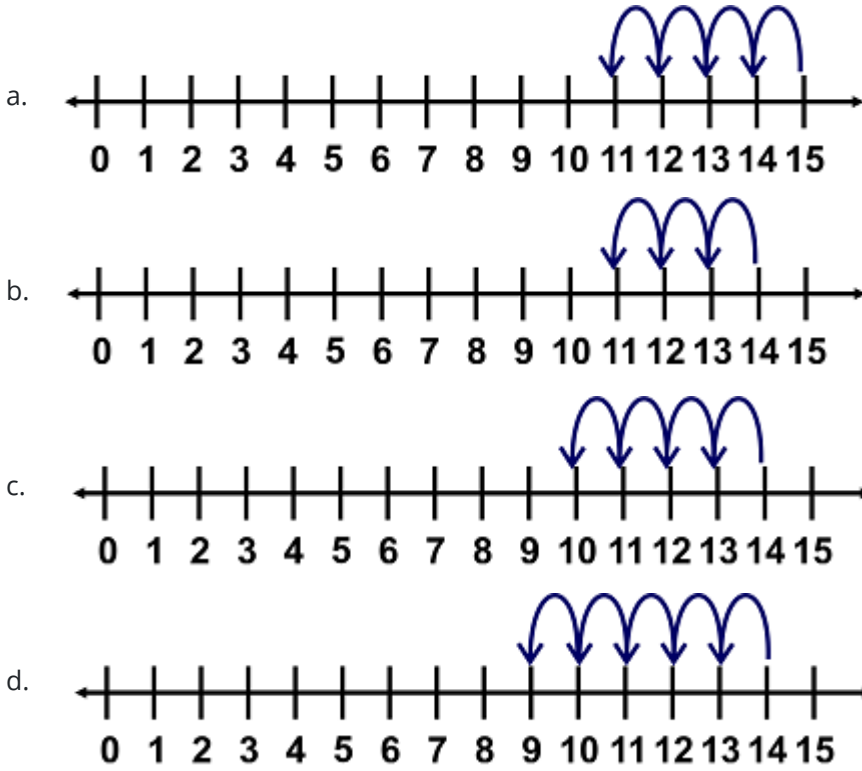

a. **15 - 3 = 12** b. **14 - 3 = 11**

c. **14 - 4 = 10** d. **15 - 4 = 11**

46. Which of the following number line satisfies the number statement 14 - 4 = 10?

a.

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

b.

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

c.

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

d.

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

47. Fill in the blank:

$18 \div 3 = 2 \times$ _____.

a. 2

b. 3

c. 4

d. 6

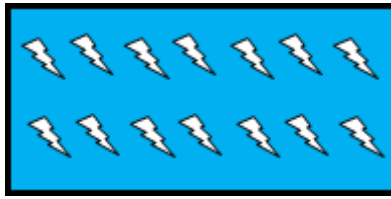**48.** How many pairs of clips can be formed from the given set of clips?

a. 2

b. 4

c. 6

d. 8

49. Fill in the blank:

There are ___ groups of 7 items each.

a. 2

b. 3

c. 4

d. 5

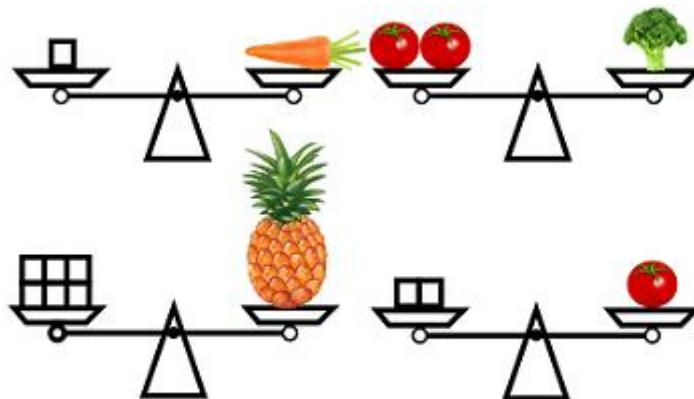**50.** What will be the next number in the series?

27, 24, 21, ?

a. 19

b. 18

c. 17

d. 16

51. Half of a number is 6. What is the number?

a. 3

b. 8

c. 9

d. 12

52. Which of the following is the correct descending order of the weights of the given items?

Use ☐ as 1 unit of mass

a. **Pineapple > Carrot > Broccoli > Tomato**

b. **Pineapple > Tomato > Carrot > Broccoli**

c. **Pineapple > Broccoli > Tomato > Carrot**

d. **Tomato > Carrot > Broccoli > Pineapple**

53. What is the time when the small hand of the clock is at 6 and the big hand of the clock is at 12?

a. **6'o clock**

b. **6:30**

c. **12'o clock**

d. **12:30**

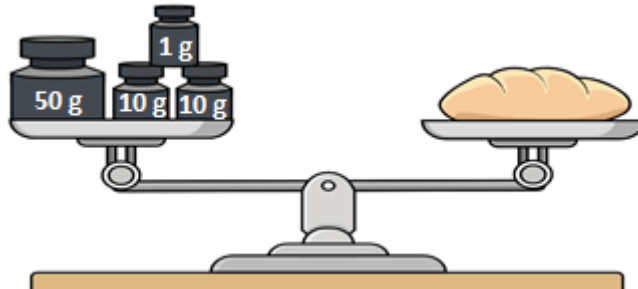**54.** How much more liquid is needed to fill the container to 50 ml?

a. **5 ml**

b. **40 ml**

c. **45 ml**

d. **50 ml**

55. Which of the following is the lightest in weight?

a.

b.

c.

d.

56. What is the weight of the bread roll?

a. **60 g**

b. **70 g**

c. **71 g**

d. **75 g**

57. Sarah starts playing in the park at the time shown on the clock. If she played for one and a half hours, at what time did she leave the park?
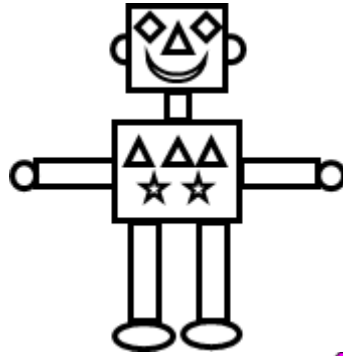

a. **6:30 pm**

b. **6:45 pm**

c. **7:00 pm**

d. **7:15 pm**

58. How many triangles are there in the figure?

a. 3

b. 4

c. 5

d. 6

59. Which of the following objects resembles a cone?

a.

b.

c.

d.

60. I have two circular faces and one curved face. Who am I?

a. Sphere

b. Cuboid

c. Cylinder

d. Cone

Answer Key

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