


CREST EduFund Mental Maths Olympiad (CEMMO)

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

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

Addition and Subtraction

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

$$27 - 9 = \underline{\quad}$$

a. **18**

b. **19**

c. **36**

d. **37**

7. Which of the following number statements is correct?

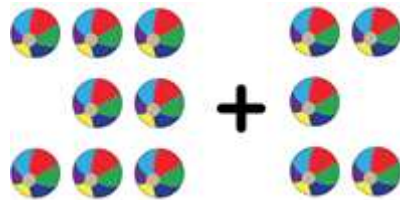
a. **$67 + 6 = 72$**

b. **$58 + 9 = 69$**

c. **$64 + 7 = 71$**

d. **$54 + 9 = 64$**

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



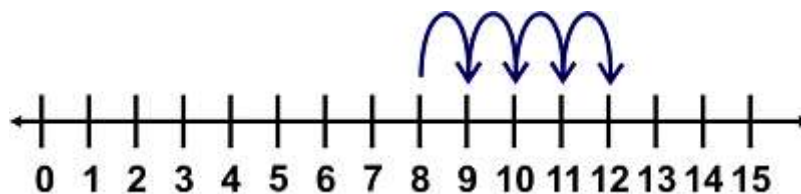
a. **$8 + 4 = 12$**

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?

$$\begin{array}{r} 4X \\ + 27 \\ \hline 71 \end{array}$$

a. **0**

b. **1**

c. **3**

d. **4**

13. Find the value of X:

$$\begin{array}{r} X7 \\ - 29 \\ \hline 28 \end{array}$$

a. **2**

b. **3**

c. **4**

d. **5**

14. Fill in the blank:

$$3 + 3 + 3 + 3 + 3 + 3 = 3 \times \underline{\hspace{2cm}}$$

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?

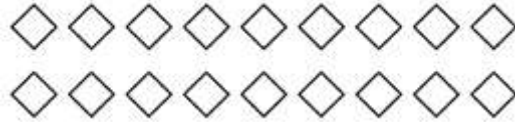
a. **6**

b. **7**

c. **8**

d. **9**

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



a. **6**
c. **8**

b. **7**
d. **9**

20. Find the missing number in the series.

12, 14, 16, 18, ?

a. **19**
c. **21**

b. **20**
d. **22**

21. Fill in the blank:

10, 20, __, 40, 50

a. **22**
c. **27**

b. **25**
d. **30**

22. What is half of 18?

a. **7**
c. **9**

b. **8**
d. **10**

23. What number is one-half of 26?

a. 13
c. 15

b. 14
d. 16

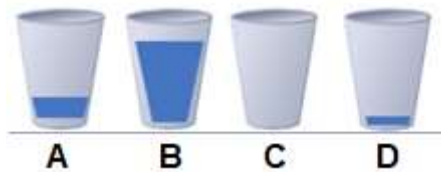
24. Which of the following gives the correct ascending order of the lengths of the trains?



a. $B < D < A < C$
c. $B > D > A > C$

b. $B < A < D < C$
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
c. Liquid in B < Liquid in D

b. Liquid in C > Liquid in D
d. Liquid in C < Liquid in A

26. Fill in the blank:

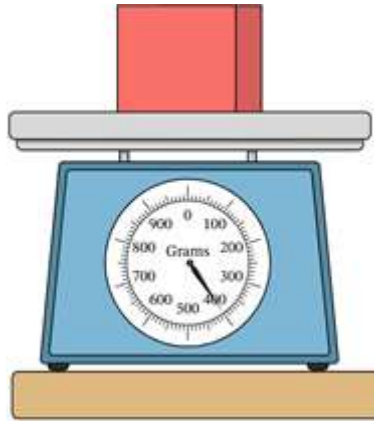
The length of the crayon is ____ paper clips.



a. 3
c. 5

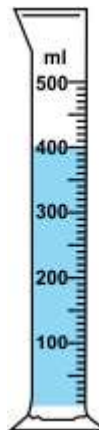
b. 4
d. 6

27. What is the mass of the given object?



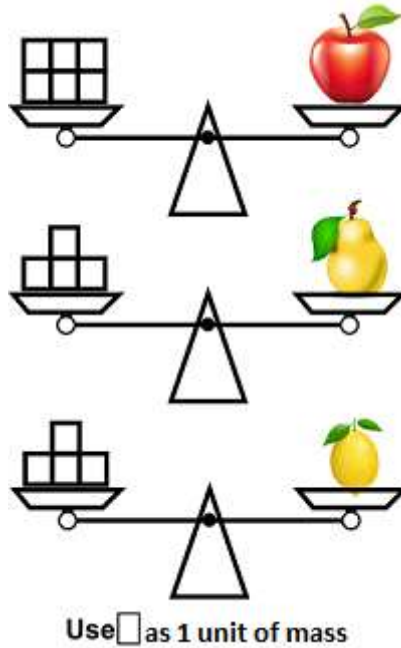
- a. **100 g**
- b. **200 g**
- c. **300 g**
- d. **400 g**

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?



- a. Apple is the lightest.
- b. Pear is the heaviest.
- c. Pear is the lightest.
- d. Lemon is the lightest.

30. Fill in the blank:

$$4 \text{ km} + 800 \text{ m} = \underline{\hspace{2cm}} \text{ m}$$

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

31. Find the value based on the given picture.



- 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
- c. 6:00 pm

- b. 12 noon
- d. 9:30 pm

33. Fill in the blank:

2 days = _____ hrs

- a. 12
- c. 36

- b. 24
- d. 48

34. How much money?



- a. 1 dimes
- c. 3 dimes

- b. 2 dimes
- d. 4 dimes

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



Start



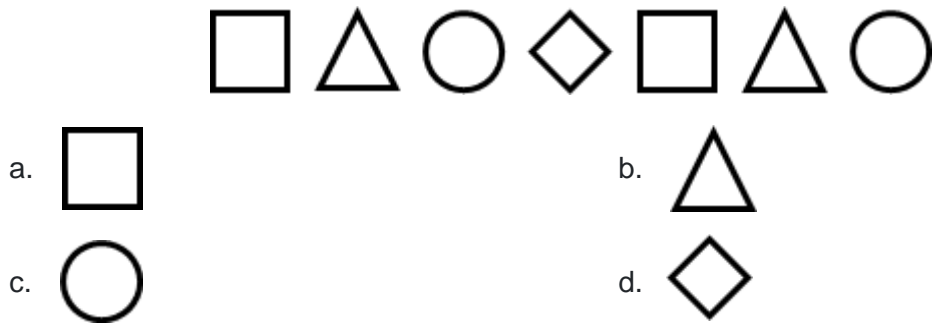
Stop

- 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?

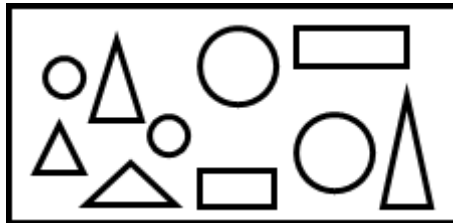


37. What shape will come next in the pattern?



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?



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



Avance (Each Question is 6 Marks)

41. Fill in the blank:

82 = _____ tens _____ ones

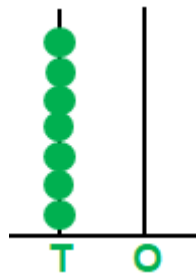
a. **2, 8**

b. **1, 8**

c. **8, 2**

d. **8, 8**

42. What is the number represented in the abacus?



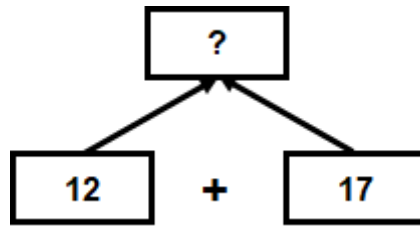
a. **7**

b. **70**

c. **80**

d. **90**

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



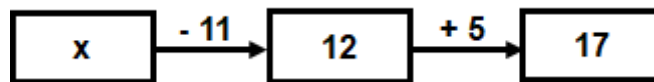
a. **29**

b. **30**

c. **39**

d. **49**

44. What is the value of X?



a. **19**

b. **20**

c. **21**

d. **23**

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



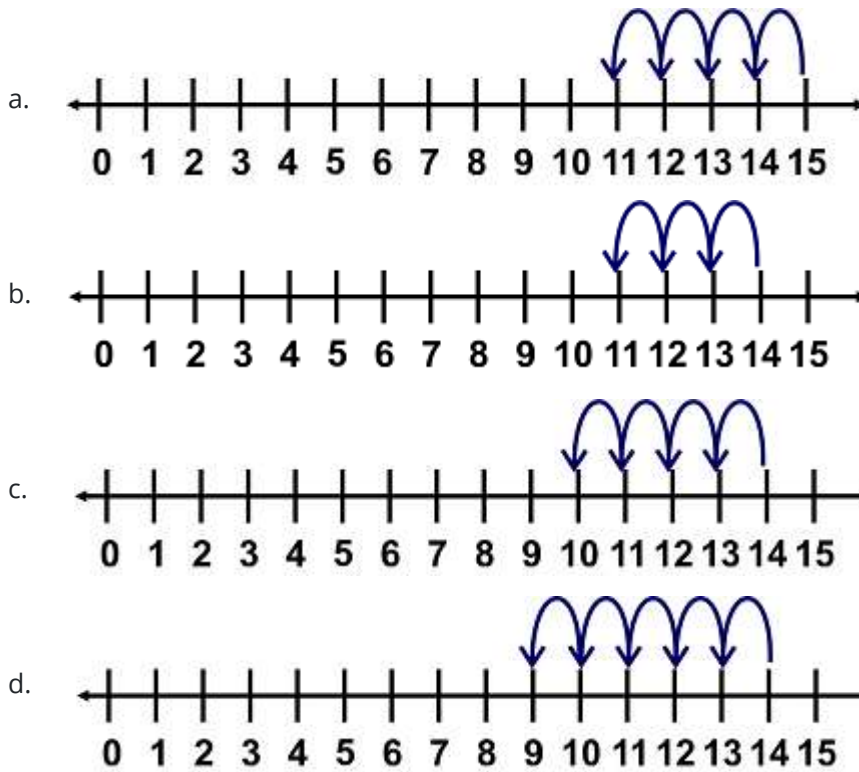
a. **15 - 3 = 12**

b. **14 - 3 = 11**

c. **14 - 4 = 10**

d. **15 - 4 = 11**

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



47. Fill in the blank:
 $18 \div 3 = 2 \times \underline{\quad}$.

- a. 2
- b. 3
- c. 4
- d. 6

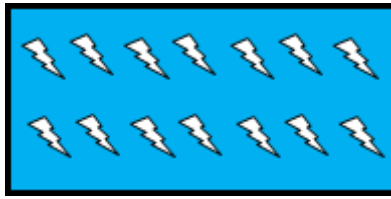
48. How many pairs of clips can be formed from the given set of clips?



- a. 2
- b. 4
- c. 6
- d. 8

49. Fill in the blank:

There are ___ groups of 7 items each.



a. **2**
c. **4**

b. **3**
d. **5**

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

27, 24, 21, ?

a. **19**
c. **17**

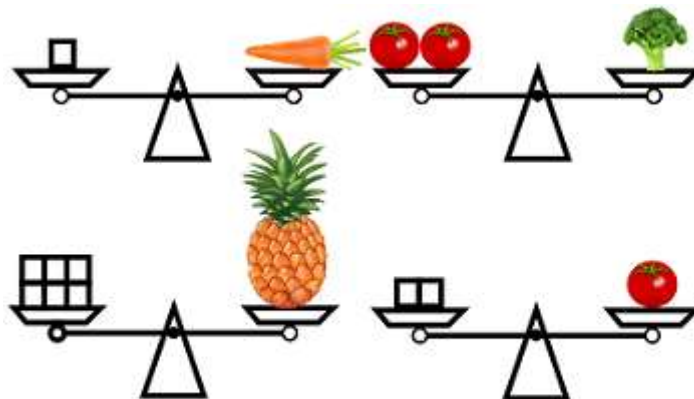
b. **18**
d. **16**

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

a. **3**
c. **9**

b. **8**
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?

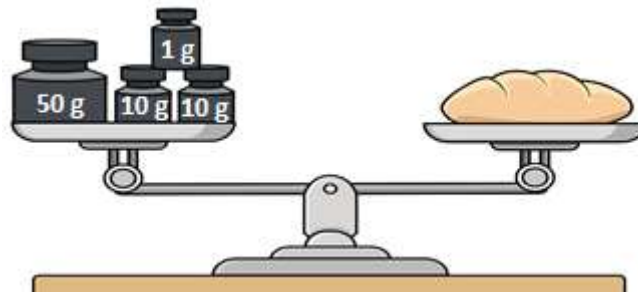


- a. **5 ml**
- b. **40 ml**
- c. **45 ml**
- d. **50 ml**

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



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?



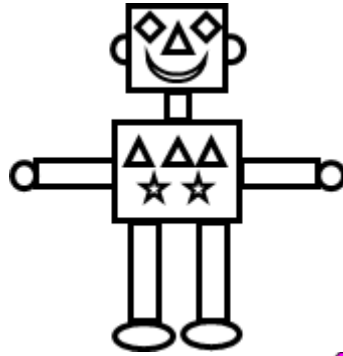
a. **6:30 pm**

b. **6:45 pm**

c. **7:00 pm**

d. **7:15 pm**

58. How many triangles are there in the figure?



a. 3
c. 5

b. 4
d. 6

59. Which of the following objects resembles a cone?



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						