Grade 5

CREST Mathematics Olympiad (CMO)

Sample Paper

Pattern and Marking Scheme				
Grade	**Topic/Section**	**No. of Questions**	**Marks per Question**	**Total Marks**
Grade 5	Practical Mathematics	40	1	40
	Achiever's Section	10	2	20
Grand Total		**50**		**60**

The total duration of the exam is 60 minutes.

Syllabus

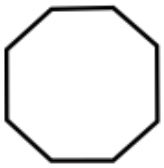
Section 1: Numerals, Number Names and Number Sense (7 and 8 digit numbers), Computation Operations, Fractions and Decimals, Measurement of Length, Weight, Capacity, Volume, Time, Temperature and Money, Conversions, Geometrical Shapes and Solids, Angles, Perimeter of Various Shapes & Area of Rectangle and Square, Symmetry, Data Handling.

Achievers Section: Higher Order Thinking Questions - Syllabus as per Section 1

For more details, visit https://www.crestolympiads.com/maths-olympiad-cmo

Practical Science (Each Question is 1 Mark)

1. Which of the following figures has maximum lines of symmetry?

a. 

b. 

c. 

d. 

2. Fill in the blank:
2000.0051 = 2000 + _____ + 0.0001

a. 0.050
b. 0.005
c. 0.505
d. 0.001

3. A car covers 24.5 km in 4.2 L of petrol. How much distance will it cover using 2 L of petrol?

a. 5.833 km
b. 11.67 km
c. 13.45 km
d. 16.67 km

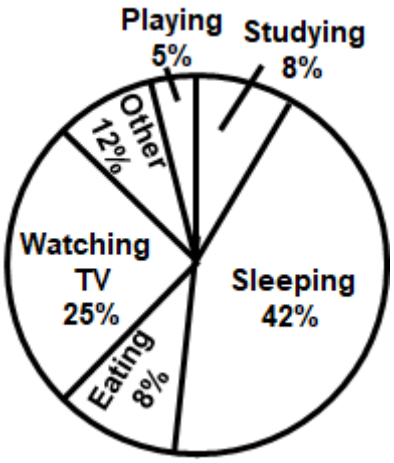
4. What is the HCF of 210, 350 and 546?

a. 14
b. 28
c. 7
d. 1

5. Which of the given options have a vertical line of symmetry?

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

6. Ahek spends his Sunday doing many activities as shown in the pie chart. How much time does he spend on watching TV?

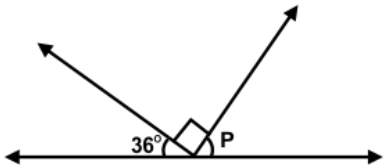


a. 6 hours
b. 4 hours
c. 5 hours
d. 2 hours 10 minutes

7. Find the distance covered by a train in the month of October, if it is travelling without stopping for a single minute continuously at the speed of 68 km/hour

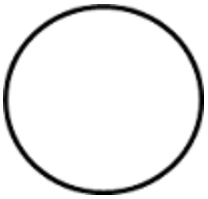
a. 37,290 km
b. 50,592 km
c. 12,740 km
d. 64,280 km

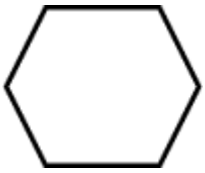
8. Find the measure of ∠p in the given figure:

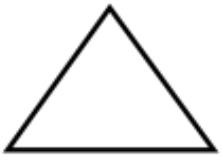


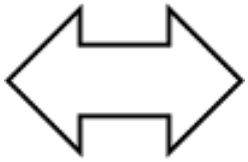
a. 63°
b. 54°
c. 90°
d. 144°

9. Which of the given shapes can have only 3 lines of symmetry?

a. 

b. 

c. 

d. 

10. Find the value of the following:
- 53 x 27 - (- 462) + 294.50 - (- 2135.80)

a. 1532.8
b. 1461.3
c. 1789.33
d. 1964.9

11. Which of the given options shows how the given figure would look if it is quarterly rotated in the clockwise direction?

a. 
b. 
c. 
d. 

12. Rehan was given a test of 3 hours. Due to an emergency, he left after just 20 minutes. What fraction of time did he sit for the exam?

a. 1/9
b. 1/2
c. 8/9
d. 1/4

13. Where will the hour hand of a clock stop if it shows 8 o'clock and turns one right angle clockwise?

a. 8:15 o'clock
b. 11 o'clock
c. 9:15 o'clock
d. 12 o'clock

14. Solve the following:
$4\ ^{1}/_{4} + 12/5 + 5.75 - 8.25$

a. 9.85
b. 4.15
c. 12.25
d. 37.55

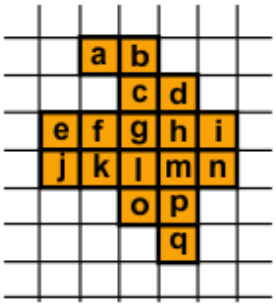
15. What is 72,190,842 + 4,372,074 - 28,108,356 rounded off to nearest thousands?

a. 48,455,000
b. 72,647,000
c. 34,379,000
d. 24,282,000

16. Peil went to the beach with her family. It took them 7 hours 24 minutes to reach there. On the way back from the beach, they took a shortcut that took 1 hour 53 minutes less. If they left the beach at 11:15 a.m., then when did they reach home?

a. 12:00 p.m.
b. 5:31 p.m.
c. 4:46 p.m.
d. None of the given options

17. Removing which block would not change the perimeter of the given shape?



a. Q
b. a
c. c
d. j

18. Find the value of a in (- 26 x a) ÷ 4 = 364.

a. 26
b. - 37
c. 78
d. - 56

19. A rectangle measuring 12 cm x 84 cm is divided into 7 parts such that each part is a square. Find the area of 3 of these parts.

a. 254 cm^2
b. 432 cm^2
c. 756 cm^2
d. 374 cm^2

20. James bought two watches for his parents. The cost of his mother's watch is 7990 cents more than his father's watch. If he spent a total of 28,000 cents on the watches, then find the cost of his mother's watch.

a. 20,010 cents
b. 15,999 cents
c. 10,005 cents
d. 17,995 cents

21. While running a marathon of 22 km, the distance covered by a runner is one-fourth of the distance she has yet to cover. Find the distance she has covered.

a. 6.1 km
b. 5 km
c. 4.4 km
d. 5.5 km

22. The given table shows the amount spent in cents by a family. Find the ratio of the amount spent on laundry to the amount spent on groceries.

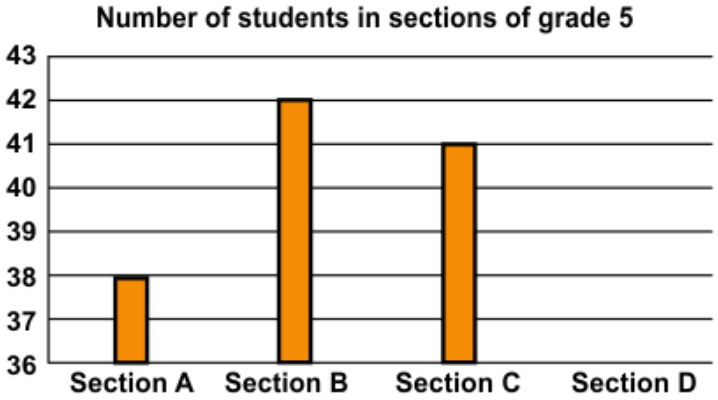
Categories	Grocery	Rent	Laundry	Educations	Others
Expenditure	8570	20,000	1000	10,000	15,000

a. 100/857
b. 857/100
c. 10/857
d. 857/1000

23. Simplify:
590 - [2 x {20 x (9 x 2 - 3 x 6)}]

a. 570
b. 0
c. 590
d. 100

24. If the total number of students in four sections of grade 5 is 160, then find the number of students in section D.



a. 42
b. 41
c. 40
d. 39

25. For a project, Reh has to go and live in a different city. He left on 14th March and stayed there for 59 days (including the day he left). When did he come back?

a. 18th May
b. 11th May
c. 30th April
d. None of the above

26. Arrange 0.34 km, 56000 cm, 310000 mm and 1600 m in descending order:

a. 1600 m > 0.34 km > 310000 mm > 56000 cm
b. 56000 cm > 0.34 km > 1600 m > 310000 mm
c. 1600 m > 56000 cm > 0.34 km > 310000 mm
d. 0.34 km > 310000 mm > 1600 m > 56000 cm

27. What do we get when we divide the sum of $4\frac{5}{9}$ and $3\frac{6}{11}$ by their difference?

a. 9.99
b. 10.01
c. 8.02
d. None of the above

28. Find the number of small cubes formed if a big cube of side 24 m is cut into small cubes of side 6 m.

a. 24
b. 40
c. 32
d. 64

29. How many times during a day the hands of a clock make a straight line?

a. 11
b. 24
c. 22
d. 44

30. The LCM of a and b is 220. Which of the following can be the HCF of a and b?

a. 33
b. 15
c. 20
d. 12

31. 3,00,000 people visited a park in 200 days and same number of people visited the park every day. How many people visited the park in 1 day?

a. 15,000
b. 150
c. 1,500
d. 3,000

32. Which expression has a value greater than -3?

a. 4 + (- 9)
b. 3 + (- 8) + 1
c. - 10 + 8
d. -1 + (- 5) + 2

33. Find the value of the following:
[823 + (-398)] + [413 - 312 + (-400)] - (-30) + 286 - {(-115) + 117}

a. -440
b. -287
c. 287
d. 440

34. The mixed fraction $5\frac{4}{7}$ can be expressed as:

a. 33/7
b. 39/7
c. 33/4
d. 39/4

35. The weight of three boys is $11\frac{3}{4}$ kg, $14\frac{1}{5}$ kg and $16\frac{1}{2}$ kg. Find the total weight of the three boys.

a. $41\ \frac{9}{20}$ kg
b. $43\ \frac{9}{20}$ kg
c. $42\ \frac{9}{20}$ kg
d. $44\ \frac{9}{20}$ kg

36. The decimal from of 6708/100 is _____.

a. 67.08
b. 670.08
c. 6.708
d. 670

37. Which of the following alphabets has only a horizontal line of symmetry?

a. W
b. E
c. A
d. P

38. The simplified value of [18 ÷ 6 + {2 x (8 - 7 of 3) + 17 x 5}] is:

a. -42
b. 62
c. 65
d. 85

39. If one-third of one-fourth of a number is 15, then how much is three-tenth of that number?

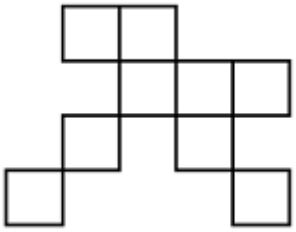
a. 35
b. 36
c. 45
d. 54

40. Find the value of x:
301.01 - 0.101 = x + 198.01

a. 103.119
b. 103.101
c. 102.901
d. 102.899

Achiever's Section (Each Question is 2 Marks)

41. If the side of each square in the given figure is 8 m, then find the area and the perimeter:

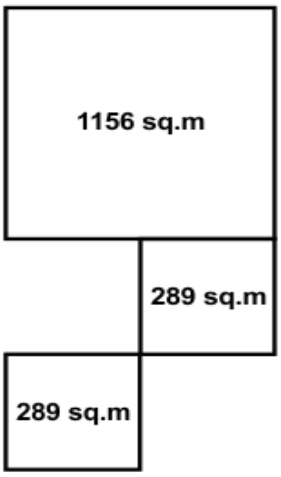


a. 194 m^2, 128 m
b. 72 m^2, 156 m
c. 576 m^2, 208 m
d. 676 m^2, 256 m

42. If A*B = AB(A - B), then find the value of 509*218:

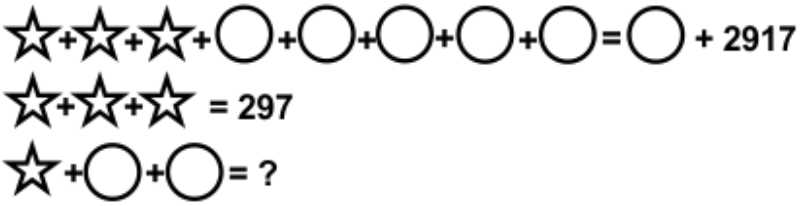
a. 3,75,29,355
b. 8,64,29,574
c. 2,34,65,482
d. 3,22,89,942

43. Find the perimeter of the given figure. The figure is made up of squares with the areas as mentioned:



a. 352 m
b. 336 m
c. 284 m
d. 238 m

44. Solve the following equation:

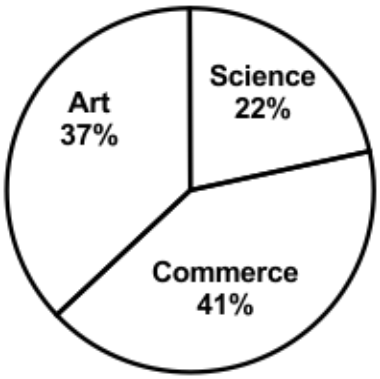


a. 1,310
b. 1, 234
c. 1,409
d. 1,574

45. While cooking a curry, the mass of it reduced from 1 kg to 850 g. Find the % reduction in the weight of the curry.

a. 30%
b. 20%
c. 15%
d. 50%

46. 850 students passed class 10^{th} in a school. They choose different streams for their further studies as shown in the given pie chart. Find the number of students who did not choose the science stream.

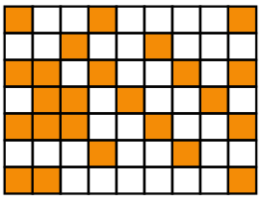


a. 500
b. 663
c. 298
d. 375

47. On the basis of the given figure, few statements are made. Choose the correct option with respect to the statements:
Statement 1: The weight of 3 trophies is 66 kg more than the weight of 1 trophy.
Statement 2: The weight of 4 trophies is more than 150 kg.

a. Both the statements are correct
b. Both the statements are incorrect
c. Only statement 1 is correct
d. Only statement 2 is correct

48. How many more blocks need to be shaded in the given figure to represent a fraction of 3/7?



a. 3 more blocks
b. 5 more blocks
c. 10 more blocks
d. 7 more blocks

49. Choose the correct option:
Consider the following statements:
A. The sum of two prime numbers is always a prime number.
B. The product of two primes is a prime number.
Which of these statements is/are correct?

a. Neither A nor B
b. A alone
c. B alone
d. Both A and B

50. Which of the following statements is not true?

a. 518 - (-2459) > (-687) - (-1040)
b. -584 - (347) < 960 - (-728)
c. 6250 + (-3012) > 6240 - (-271)
d. -888 + (3002) > 1001 - (-13)

Answer Key

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