Stage I

Grades 1-3

CREST Teacher Mathematics Olympiad (CTMO)

Sample Paper

Pattern and Marking Scheme				
Stage	**Topic/Section**	**No. of Questions**	**Marks per Question**	**Total Marks**
For stage I (Grades 1-3)	Practical Mathematics	30	3	90
	Achiever's Section	20	6	120
Grand Total		**50**		**210**

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

Numbers, Operations and algebraic thinking, Number and operations in base ten, Numbers and operations - Fractions, Measurements, Patterns, Geometry

For more details visit: https://www.crestolympiads.com/teacher-mathematics-olympiad

Practical Mathematics (Each Question is 3 Marks)

1. The predecessor of which of the following sums is an even number?

a. 1 + 2 + 3
b. 4 + 5 + 7
c. 6 + 7 + 8
d. 7 + 8 + 9

2. In which one of the following numbers, when the digits of its ones place and hundreds place are interchanged, the new number so obtained will be larger than the original number?

a. 9634
b. 6950
c. 2594
d. 5253

3. Stefan had a collection of 1569 stamps. Which one of the following is the correct number name for 1569?

a. One thousand five sixty nine
b. One thousand five hundred nine
c. One thousand five hundred sixty nine
d. One five six nine

4. The smallest 4-digit number than can be formed by using the digits 6, 2, 0, 7 without repeating the digits is:

a. 267
b. 2067
c. 2670
d. 7062

5. If the sum of 162 ones and ⬠ is equal to 162 tens, then the value of ⬠ will be:

a. 1458
b. 14580
c. 1668
d. 16680

6. There are 219 boys and 426 girls in a school. How many more girls than boys are there in the school?

a. 197
b. 207
c. 187
d. 217

7. If 27 × 17 × 13 = 5967 and ▲ × 27 × 13 = 5967, then the value of ▲ must be:

a. 27
b. 13
c. 17
d. 19

8. If the weight of a 21 metres long electric wire is 420 grams, then the weight of 12 metres long such wire will be:

a. 180 grams
b. 200 grams
c. 220 grams
d. 240 grams

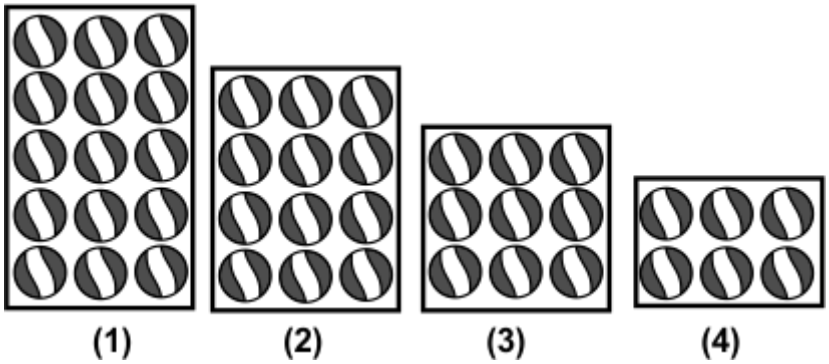
9. When the successor of 33 is subtracted from the predecessor of 44, the result will be:

a. the predecessor of 11
b. the successor of 11
c. the predecessor of 10
d. the successor of 10

10. When the difference of 1129 and 1192 is added to the sum of 1129 and 1192, the result will be:

a. 2384
b. 2734
c. 1194
d. 3114

11. Which one of the following sets shows 4 × 3?



a. Set (1)
b. Set (2)
c. Set (3)
d. Set (4)

12. What is the product of the missing digits *a* and *b* in the subtraction given below?

	5	7	a	5
−	3	b	3	4
	2	3	5	1

a. 24
b. 28
c. 12
d. 32

13. Half of a number is 24, then the one-third of the same number will be:

a. 12
b. 15
c. 16
d. 18

14. Identify the *unpainted* part of a wall if 3/5 the wall is painted.

a. (5 – 3)/5
b. (3 – 2)/5
c. (5 + 3)/5
d. (5 – 2)/3

15. Romy plays carom 4/6 of an hour daily. How many minutes does Romy play carom in a week?

a. 196 minutes
b. 220 minutes
c. 240 minutes
d. 280 minutes

16. A cake is divided into nine equal parts. Soni ate 2/9 part of the cake and Simran ate 1/9 part of the cake. How much of the cake was left there?

a. 3/9
b. 4/9
c. 6/9
d. 8/9

17. If the length of a bed is 2 m 7 cm and its breadth is 1 m 9 cm, then by how much does the length exceed the breadth?

a. 97 cm
b. 98 cm
c. 1 m 2 cm
d. 1 m 1 cm

18. Peter spent 42 days at summer camp. How many weeks did he spend at the camp?

a. 4 weeks
b. 6 weeks
c. 7 weeks
d. 8 weeks

19. If the total capacity of the cups shown below is 752 millilitres, then the total capacity of such 6 cups will be:

a. 564 millilitres
b. 552 millilitres
c. 658 millilitres
d. 470 millilitres

20. The capacity of a bucket and a vessel are shown below:
How much more water can the vessel hold than that of the bucket?

(6 L 60 mL)
Bucket

(16 L 80 mL)
Vessel

a. 12 L 80 mL
b. 10 L 20 mL
c. 9 L 80 mL
d. 11 L 20 mL

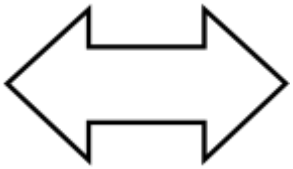
21. There are 7 tea bags in a pack of tea. If each bag contains 4 g 120 mg of tea leaves, then the pack is of _____ of tea.

a. 28 g 640 mg
b. 26 g 840 mg
c. 25 g 260 mg
d. 28 g 840 mg

22. Which one of the following is a shape with two circular base?

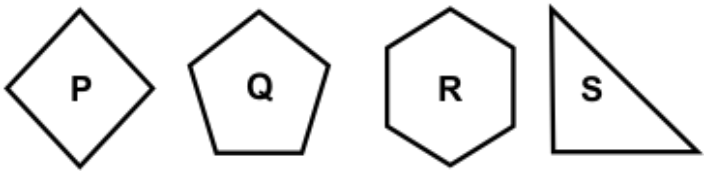
a. Cone
b. Sphere
c. Cylinder
d. Cuboid

23. How many straight lines(which includes slanting and sleeping lines as well) are needed to make the figure shown below?



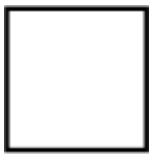
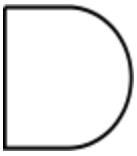
a. 9
b. 10
c. 11
d. 12

24. In the figure shown below, which letter is inside the shape made up of more than four lines but less than six lines?



a. P
b. Q
c. R
d. S

25. Which one of the following shapes is different from the others?

a. 
b. 
c. 
d. 

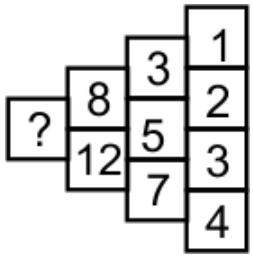
26. To which group does the number 56 belong to?

a. 6, 12, 18, ...
b. 7, 14, 21, ...
c. 5, 10, 15, ...
d. 9, 18, 27, ...

27. Which one of the following numbers will replace the question mark (?) in the number series given below?
6, 8, 11, ? , 20, 26, ...

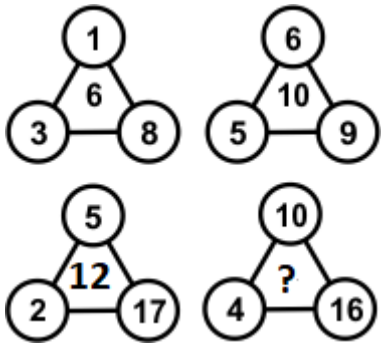
a. 13
b. 14
c. 15
d. 16

28. Which one of the following numbers will replace the question mark (?) in the number pattern given below?



a. 96
b. 18
c. 24
d. 20

29. Which one of the following numbers will replace the question mark (?) in the number pattern given below?



a. 13
b. 14
c. 15
d. 16

30. There are 3 bags of cement in box. The weight of a cement bag is 61 kg. What will be the total weight of 50 such boxes?

a. 9150 kg
b. 9050 kg
c. 9070 kg
d. 9180 kg

Achievers' Section (Each Question is 6 Marks)

31. A television set costs $156 less than a refrigerator. The television set costs $548. What is the total cost of the television set and the refrigerator?

a. $588
b. $808
c. $860
d. $940

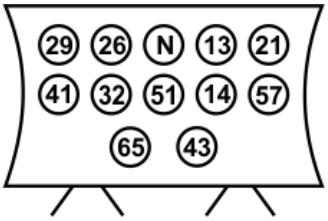
32. PQR is a three-digit odd number. The digit Q is the greatest one-digit number. The sum of the digits P and R is equal to Q. The digit P is 1 less than the digit Q. Find the number.

a. 189
b. 819
c. 198
d. 891

33. A girl drew a number from a bag containing numbers from 1 to 100. It is found that the number is equal to the difference between the predecessor of the greatest 2-digit even number and the successor of the least 2-digit odd number. What is the number?

a. 85
b. 86
c. 83
d. 84

34. If N is the greatest number among all the numbers written on the board shown below, then the difference between the greatest number and the smallest number cannot be:



a. 55
b. 71
c. 59
d. 51

35. A cat catches 5 rats in the morning and 4 rats in the evening. If the cat catches the same number of rats daily then how many rats does the cat catch in August without missing any day?

a. 261
b. 270
c. 279
d. 310

36. Which of the following statements is INCORRECT?

a. 2964 ÷ 7 leaves a remainder of 3.
b. There are 3 thousands in 3528.
c. If one jug of water can fill 6 glasses, then 8 jugs are needed to fill 48 glasses.
d. Sum of face value and place vale of hundreds place digit in 4065 is 60.

37. The table shown below represents the number of points scored by different teams at a sports meet:
Which of the following two teams had total points between 355 and 365?

Teams	Blue	Black	Red	Green	Yellow
Points	184	174	176	168	182

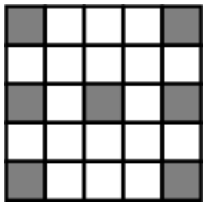
a. Blue and Green
b. Blue and Yellow
c. Black and Red
d. Red and Yellow

38. In the equivalent fractions given below, M, N, P and Q are missing numerators or denominators:
Which one of the following statements is true?

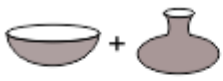
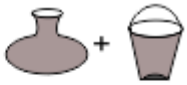
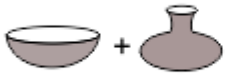
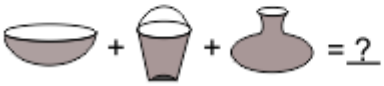
$$\frac{\boxed{M}}{27} = \frac{8}{\boxed{N}} = \frac{24}{108} = \frac{36}{Q} = \frac{\boxed{P}}{81}$$

a. Q ÷ P = N – 4
b. Q ÷ P = M + 4
c. Q ÷ P = N ÷ 4
d. Q ÷ P = M × 4

39. In the given figure, seven unit squares are shaded:
How many more such squares should be shaded so that the fraction represented by the unshaded parts is 3/5?

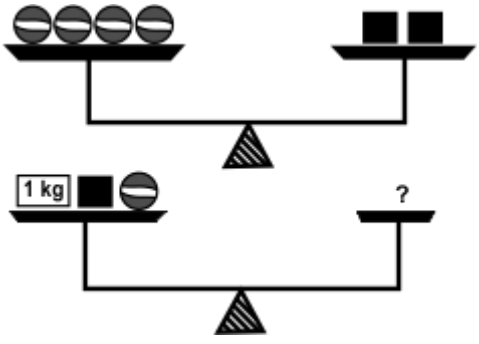


a. 6
b. 7
c. 8
d. 9

40. If  = 310 mL,  = 440 and  = 260 mL, then the volume of  = ?

a. 495 mL
b. 505 mL
c. 510 mL
d. 490 mL

41. If 1 ball weighs 1 kg, then how many balls do we need put in place of question mark (?) to balance the set up shown below?

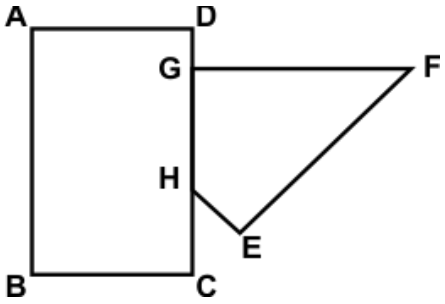


a. 2
b. 3
c. 4
d. 5

42. Jerry cycles for 4 km 20 m each day. How many metres does she cycle in March if she never misses a day?

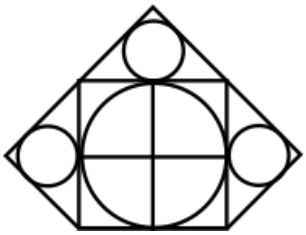
a. 124620 m
b. 120600 m
c. 126000 m
d. 130200 m

43. How many unique line segments can you identify within the given figure?



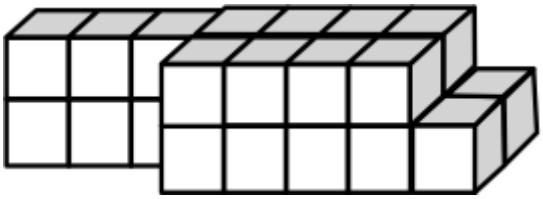
a. 9
b. 10
c. 11
d. 12

44. How many more squares than circles in this figure?



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

45. How many cubes are needed to make this shape?



a. 18
b. 20
c. 22
d. 24

46. Robin bought 5 notebooks for $18 each and 3 erasers each costing $2. How much he has to pay in total?

a. $92
b. $98
c. $88
d. $96

47. In a division, 9 is the quotient and remainder is one-third of the quotient. If the divisor is 5 less than the quotient then find the dividend.

a. 33
b. 39
c. 49
d. 31

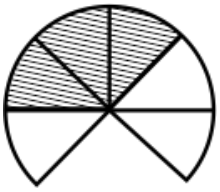
48. Read the statement given below:

Statement: Alex has 60 bananas. He gave ¼ to his sister and 1/5 of it of the remainder to his brother.

Which one of the following is INCORRECT?

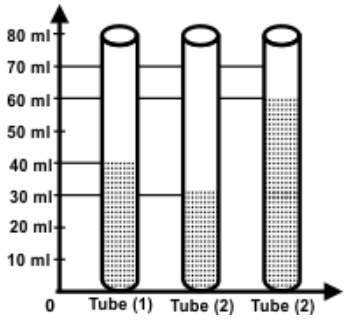
a. The number of bananas he gave to his sister is equal to 5 times 3.
b. The number of bananas his brother got is equal to 3 more than 3.
c. The number of bananas left with Alex after giving his brother is equal to 9 times 4.
d. Bananas left after giving his sister is 45.

49. Which of the following statements is CORRECT about the figure shown below?



a. The whole is divided into 8 equal parts.
b. Fraction represented by the shaded parts = 1/4
c. Fraction represented by unshaded parts = 1/2
d. Fraction represented by the shaded parts = 1/3

50. There are three tubes which contain liquid as shown below:
If you add 15 ml of liquid in Tube (2) and remove 25 ml of liquid from Tube (3), then which one of the following tubes contains maximum liquid?



a. Tube (1)
b. Tube (2)
c. Tube (3)
d. All tubes contain equal amount of liquid

Answer Key

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