SOUTHERN AFRICAN PRIMARY MATHEMATICS OLYMPIAD

FEMSSISA (SAPMO): GRADE FOUR

DATE: (30 – 31 AUGUST; 1-10 SEPTEMBER 2021)

TIME: 90 MINUTES

Instructions:

1. This booklet has 20 multiple choice questions.
2. Use the answer sheet provided. Circle the letter corresponding to your answer.
3. All working details must be done in the space provided.
4. Calculators are not permitted.
5. Diagrams are not necessarily drawn to scale.
6. The first 15 problems carry one mark each and the next 5 carry 2 marks each.
7. You have 90 minutes for the paper which works out to an average of 4,5 minutes per question.
8. Read the questions carefully before answering. If learners are experiencing difficulty in respect of the language then, the invigilator can translate into the mother tongue.
9. Visit the website: www.saolympiads.co.za.

ENJOY THE OLYMPIAD!

REGISTRATION NO: 2015/050119/08

GRADE FOUR 2021

1. Find □ : □ - 30 = 36 – □

   (A) 39 (B) 36 (C) 33 (D) 30

2. How many days are there from 20 February 2024 to 16 June 2024?

   (A) 118 (B) 117 (C) 116 (D) 115

3. The cost of 6 litres of oil is R100. What would you pay for 1.5 litres of water at the same rate?

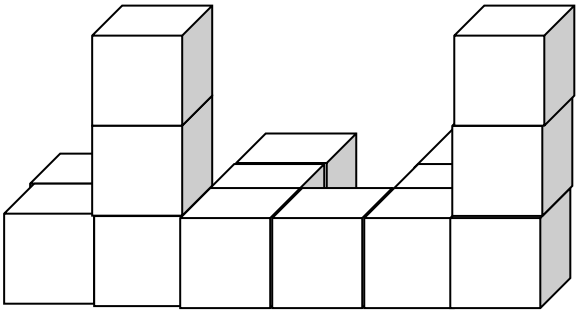
   (A) R25 (B) R30 (C) R35 (D) R40

4. What is the 12th number of this addition sequence:

   10; 17; 24; 31; …

   (A) 94 (B) 87 (C) 80 (D) 73

5. How many blocks were used to build this structure?



   (A) 12 (B) 13 (C) 14 (D) 15

6. Pinky placed a cake in the oven at 10:15. If it takes 1 hour 50 minutes to bake, then at what time should it be taken out of the oven?

   (A) 12:05 (B) 12:10 (C) 12:15 (D) 12:20

7. Pansy has a certain amount of money. After spending $\frac{2}{3}$ of the money she still has R270 left. How much did he begin with?

   (A) R750 (B) R780 (C) R810 (D) R840

8. Determine the 3 digit number if:-

   - The ten's digit 1 more than twice the unit's digit
   - The number is divisible by 3

   The ten's digit is 1 less than twice the hundred's digit.

   (A) 952 (B) 531 (C) 573 (D) 594

9. Mandla collected half the amount Brins collected. Cammy collected R200 more than Brins. How much did Mandla collect if all three collected R1700?

   (A) R500 (B) R400 (C) R300 (D) R200

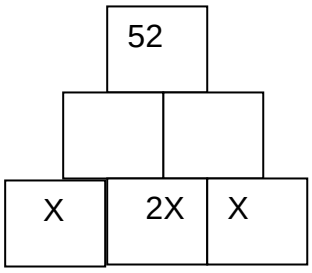
10. In this subtraction certain digits have been replaced by letters.

    What is the value of A + B?

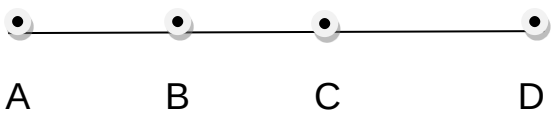
$$\begin{array}{r} 5\ A\ 7 \\ 1\ B\ B \\ \hline 3\ A\ A \end{array}$$

    (A) 17 (B) 16 (C) 15 (D) 14

11. In the game below called "PYRAMATHS' the number on the left is doubled and added to the number on the right to give the number in the box above. Find the number that should replace X.



    (A) 4 (B) 5 (C) 6 (D) 7

12. 

    Four houses A; B; C and D are on a straight road. The distance from A to D is 600metres. The distance from B to D is 400metres and from A to C is 350metres. What is the distance in metres from B to C?

    (A) 100 (B) 150 (C) 200 (D) 250

13. Jenny has 3 times as much money as Len. If both have R720 then how much does Len have?

(A) R140 (B) R160 (C) R180 (D) R200

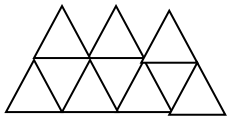
14. A container is $\frac{2}{3}$ full of water. When 75 litres are removed then it is $\frac{1}{4}$ full. What is the capacity in litres of the container, when full?

(A) 180 (B) 160 (C) 140 (D) 120

15. If the sum of the dates from Monday to Friday is 75 then what is the date of the 1st Sunday of the month?

(A) 3rd (B) 4th (C) 5th (D) 6th

16. How many triangles of all sizes are there in this figure?



(A) 10 (B) 11 (C) 12 (D) 13

17. Terry collected R200 less than half of Ayanda. If both collected R1600 then what did Ayanda collect?

(A) R1200 (B) R1300 (C) R1400 (D) R1500

18. Study the following problem. Do you know what © is doing to the 2 numbers? 6 © 2 = 19 8 © 4 = 26 2 © 2 = 7

After you have discovered what © does then find the answer to: 7 © 4

(A) 21 (B) 23 (C) 25 (D) 27

19. A company made rectangular tables with 4 legs and pentagonal tables with 5 legs. There were 220 legs and 50 tables. How many pentagonal tables were made?

(A) 10 (B) 15 (C) 20 (D) 25

20. All the multiples of 3 and 4 from the numbers 20 to 100 were removed? How many numbers remained?

(A) 31 (B) 32 (C) 33 (D) 34

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GRADE FIVE 2021

1. Evaluate: 15 - 5 x 3

   (A) 30 (B) 20 (C) 0 (D) 0

2. Determine ☐: such that: (24 - ☐) x 6 = 48

   (A) 24 (B) 20 (C) 16 (D) 12

3. If 15 x ☐ = 34 then 45 x ☐ =

   (A) 102 (B) 105 (C) 108 (D) 111

4. The sum of the dates from Monday to Sunday is 140. What is the date of the 2nd Tuesday of the month?

   (A) 10 (B) 11 (C) 12 (D) 13

5. How many days are there from 20 January 2024 to 20 April 2024?

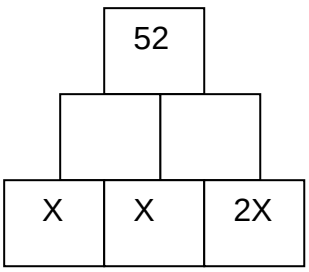
   (A) 90 (B) 91 (C) 92 (D) 93

6. In this subtraction certain digits have been replaced by letters.
   What is the value of B?

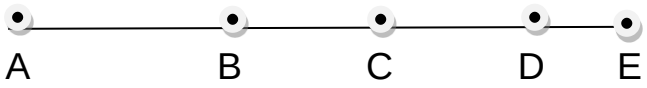
$$\begin{array}{r} 6\ B\ 4 \\ -\ B\ B\ B \\ \hline 9\ 9 \end{array}$$

   (A) 4 (B) 5 (C) 6 (D) 7

7. In the game below called “PYRAMATHS’ the number right is doubled and added to the number on the left to give the number in the box above it. Find the number that should replace X.



   (A) 7 (B) 6 (C) 5 (D) 4

8. 

Five houses A; B; C; D and E are on a straight road. The distance from A to E is 300m. The distance AB is 40 metres more than the distance BC which is 30 metres less than the distance from C to D. If the distance from C to E is 160 metres then what is the distance in metres from B to C?

(A) 50 (B) 60 (C) 70 (D) 80

9. How many 150 ml bottles of fruit juice can be filled from 5000 ml container of juice?

(A) 30 (B) 31 (C) 32 (D) 33

10. If $\frac{3}{4}$ of my money is R900 then how much is $\frac{1}{3}$ money do I have?

(A) R350 (B) R400 (C) R450 (D) R500

11. An equal number of R2 coins and 50 cent coins were obtained from a R200 note. How many R2 coins were obtained?

(A) 70 (B) 80 (C) 90 (D) 100

12. A rectangular garden measures 240 m all round. If the length is 10 m more than its width then, find the width in metres.

(A) 55 (B) 60 (C) 65 (D) 70

13. How many 2,25m lengths can you cut from a tape which is 45m in length?

(A) 16 (B) 20 (C) 24 (D) 28

14. Study the following problem. Do you know what (@) is doing to the 2 numbers?

4@3 = 2 4@6=4 5@8 = 6

After you have discovered what (@) is doing then find the answer to: (2@4) @7

(A) 10 (B) 8 (C) 6 (D) 4

15. Consider this arrangement of numbers:

1
2 3
4 5 6
7 8 9 10
……
What is the first number of the 11th row?
(A) 54 (B) 55 (C) 56 (D) 57

16. Lin had a secret number. When the number was doubled and 25 was added to it, the result was 65. What was half of the secret number?

(A) 8 (B) 9 (C) 10 (D) 11

17. Des was given a $\frac{1}{3}$ of the price as a discount. He paid R1 000. What was the initial price of the article?

(A) R2100 (B) R1800 (C) R1500 (D) R1200

18. Rea has one and half times more money as Pam. If both have R15 000 then how much does Rea have?

(A) R6000 (B) R7000 (C) R8000 (D) R9000

19. A container is $\frac{1}{4}$ full of water. When 15 litres are added then it is $\frac{1}{3}$ full. What is the capacity in litres of the container when full?

(A) 180 (B) 190 (C) 200 (D) 210

20. Colour beads silver (S) and white (W) were used to make a necklace. The beads were arranged as follows:-

S W S S W W S S S W W W S S S S W W W W ……

The chain has 120 beads.
How many white beads does it have?

(A) 50 (B) 55 (C) 60 (D) 65