SOUTHERN AFRICAN PRIMARY MATHEMATICS OLYMPIAD
FEMSSISA
(SAPMO)
GRADE FOUR
ROUND ONE
DATE: 30 JULY - 3 AUGUST 2018
TIME: 90 MINUTES

Instructions:
This booklet has 20 multiple choice questions.
Use the answer sheet provided. Circle the letter corresponding to your answer.
All working details must be done in the space provided.
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Diagrams are not necessarily drawn to scale.
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NON PROFIT COMPANY
REGISTRATION NO: 2015/050119/08

**GRADE FOUR 2018**

1. Find $\square$

   48 - $\square$ = 21

   (A) 28 (B) 27 (C) 26 (D) 25 (E) 24

2. Find the sum of the remainders of
   602 ÷ 4 and 301 ÷ 3
   (A) 1 (B) 2 (C) 3 (D) 4 (E) 5

3. If
   $$\begin{array}{r} 646 \\ -\ \underline{ABC} \\ \underline{288} \end{array}$$

   Then write down the 3 digit number ABC
   (A) 258 (B) 358 (C) 448 (D) 438 (E) 528

4. How many days are there from 14January 2018 to 14March 2018?
   (A) 59 (B) 61 (C) 63 (D) 65 (E) 67

5. The number three thousand and ninety four can be written as
   (A) 310094 (B) 31094 (C) 3194 (D) 3 094 (E) 3 0094

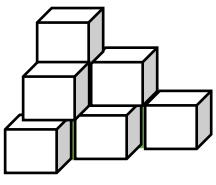
6. 24(2 dozen) oranges cost R84. How much will 8 such oranges costat the same rate?
   (A) R12 (B) R18 (C) R28 (D) R32 (E) R36

7. What is the $10^{th}$ number of this addition sequence 9; 14; 19; 24; …
   (A) 49 (B) 54 (C) 59 (D) 64 (E) 69

8. What time did the clock show 3 hours and 40 minutes from now?

   (A) 12:40 (B) 12:50 (C) 13:20 (D) 13:40 (E) 13:50

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



   (A) 8 (B)9 (C) 10 (D) 11 (E) 12

10. Guess the number.
    I am a 2 digit number.
    Both my digits are odd
    If you divide me by 3 the remainder is 1.
    The unit's digit is 4 less than my ten's digit.
    (A) 51 (B) 62 (C) 73 (D) 84 (E) 95

11. On 30 July Angie was 96 days younger than Brandon. When was Brandon's birthday in 2018?
    (A)30 October (B)31 October (C)1 November (D)2 November(E) 3 November

12. Mum placed biscuits in the oven at 09:20: It takes 55 minutes to bake, then at what time should it be taken out of the oven?
    (A) 10:15 (B) 10:20 (C) 10:25 (D) 10:35 (E) 10:45

13.
$$\begin{array}{r} ABC \\ +\ ABC \\ \hline 470. \end{array}$$
    What is A+B+C ?
    (A) 10 (B) 11 (C) 12 (D) 13 (E) 14

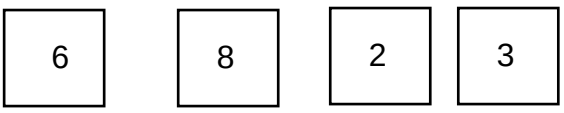
14. Candice has a certain amount of money. After spending $\frac{1}{2}$ of the money and $\frac{1}{4}$of the remainder she still has R45 left. How much did she begin with?

    (A) R100 (B) R120 (C) R130 (D) R140 (E) R150

15. Two alarm systems A(15minutes) and B(20minutes) go off every 15 minutes and 20 minutes respectively. They go off together at 10:00. At which next time will they go off together?
    (A) 10:30 (B) 11:00 (C) 11:30 (D) 12:00 (E) 12:30

16. Leanne removed all the multiples of 2 and 5 from the numbers 0 to 50? How many numbers were removed?
    (A) 33 (B) 32 (C) 31 (D) 30 (E) 29

17. Virginia has four cards number cards . How many different three-digit numbers can she make with these cards?




    (A) 24 (B) 21 (C) 18 (D) 15 (E) 12

18. Cindy; Desiree and Ed have R960 in total. Desiree has R50 more than Cindy but R20 less than Ed. How much does Cindy have?
    (A) R20 (B) R270 (C) R280 (D) R290 (E) R300
19. Kerry said she had R10 more than twice the amount Mandy had. If both had R460 then how much did Kerry have?
    (A) R240 (B) R270 (C) R290 (D) R310 (E) R330
20. An equal number of R5; R2 coins were in the container.
    When added the total amount was R280. How many R2 coins were there?
    (A) 40 (B) 50 (C) 60 (D) 70 (E) 80

MARKS: 15 X 1 = 15
5 X 2 = 10
TOTAL: 25

SOUTHERN AFRICAN PRIMARY MATHEMATICS OLYMPIAD
FEMSSISA
(SAPMO)
GRADE FIVE
ROUND ONE
DATE: 30 JULY -3 AUGUST 2018
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NON PROFITCOMPANY
REGISTRATION NO: 2015/050119/08

**GRADE FIVE 2018**

1. Evaluate : 30 - 2 x 6
   (A) 16 (B) 18 (C) 20 (D) 22 (E) 24

2, Determine ☐ such that 3(6x5 - ☐ ) = 42

   (A) 10 (B) 12 (C) 14 (D) 16 (E) 42

3. If 36 x ☐ = 45 then 12 x ☐ = …

   (A) 15 (B) 16 (C) 17 (D) 18 (E) 24

4. The estimation of R43,40 + R12, 25 + R 154,90 is

   (A) R190 (B) R200 (C) R210 (D) R220 (E) R240

5. How many times can 21be subtracted from 903?
   (A) 40 (B) 41 (C) 42 (D) 43 (E) 44

6. How many days are there from 30 March 2018 to 30 June 2018?
   (A) 90 (B) 91 (C) 92 (D) 93 (E) 94

7. If 99 x 20 = 1980 then what is 99 x 21 =…

   (A) 1980 + 21 (B) 1980 + 99 (C) 1980 + 1 (D) 1999 (E) 2001

8. How many 75 ml bottles of milk can be filled from 2000 ml container of milk?
   (A) 25 (B) 26 (C) 27 (D) 28 (E) 29

9. If $\frac{3}{4}$ of my money is R150 then how much money do I have?
   (A) R 160 (B) R 170 (C) R 180 (D) R190 (E) R200

10. Which is the smallest?
    (A) 1,075m (B) 1,105m (C) 1,0075m (D) 1,0705m (E) 1,75m

11. If 3 litres of juice cost R34 then how much will 12 litres of juice cost at the same rate?
    (A) R118 (B) R124 (C) R130 (D) R136 (E) R142

12. An equal number of R2 and R5 coins were obtained from R140 notes. How many R5 coins were obtained?
    (A) 10 (B) 12 (C) 14 (D) 16 (E) 20

13. A rectangular garden measures 84 m all round. If the length is 6 m shorter than its width then find the width in metres.
    (A) 17m (B) 18m (C) 19m (D) 20m (E) 21m

14. How many 75cm lengths can you cut from timber which is 10 m in length?
    (A) 12 (B) 13 (C) 14 (D) 15 (E) 16

15. Study the following problem. Do you know what (*) is doing to the 2 numbers?
    6*5 = 28 4*7= 26 3*8 = 22
    After you have discovered what (*) is doing then find the answer to (3*3)*4
    (A) 24 (B) 25 (C) 26 (D) 27 (E) 28

16. Rennie had a secret number. 16 was added to the number. The result was doubled to give 50. What was Rennie's secret number?
    (A) `13 (B) 12 (C) 11 (D) 10 (E) 9

17. ABCD is a rectangular field with poles placed 3m apart. There were 20 poles on the length and 10 on the width. Find the perimeter of the field. (distance all round)
    (A) 84 m (B) 104 m (C) 124 m (D) 144 m (E) 168 m

18. The numbers on three cards were added 2 at a time to give 41; 37 and 36. Find the smallest number.
    (A) 14 (B) 15 (C) 16 (D) 17 (E) 18

19. Daisy was given a $\frac{1}{3}$ of the price as a discount. He paid R240. What was the initial price of the article?

(A) R360 (B) R380 (C) R400 (D) R420 (E) R440

20. Red and white beads totalling 122 are arranged as follows:-

WW R WW RR WW RRR WW RRRR WW RRRRR ….

How many are white beads?

(A) 34 (B) 32 (C) 30 (D) 28 (E) 26

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**SOUTHERN AFRICAN PRIMARY MATHEMATICS OLYMPIAD**
**FEMSSISA**
**(SAPMO)**
**GRADE SIX**
**ROUND ONE**
**DATE: 30 JULY -3 AUGUST 2018**
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**NON PROFIT COMPANY**
**REGISTRATION NO: 2015/050119/08**

**GRADE SIX 2018**

1. Evaluate : 4 - $\frac{1}{4}$ x 4

   (A) 2 (B) 3 (C) 4 (D) 5 (E) 6

2. What is (12 ÷ 7) correct to 2 decimal digits?

   (A) 1.16 (B) 1.17 (C) 1.71 (D) 1.72 (E) 1.73

3. If 6n - 2 = 22 then n =…

   (A) 2 (B) 3 (C) 4 (D) 5 (E) 6

4. Evaluate 101 x 100 - 100 x 100

   (A) 100 (B) 99 (C) 98 (D) 97 (E) 96

5. What is the best estimate of 300 g of cheese at R59.99 per kg?

   (A) R18 (B) R19 (C) R20 (D) R21 (E) R22

6. In the following addition problem find A x B

```
    B B
  A B B
  A B B
  8 3 1
```

   (A) 21 (B) 18 (C) 16 (D) 15` (E) 14

7. A vendor sold 20kg of onions.. After selling $\frac{3}{8}$ of the remainder vendor had 25 kg of onions of the left. How many kg onions did the vendor start with?

   (A) 90 (B) 80 (C) 70 (D) 60 (E) 50

8. Tashya missed the 200 metres record which was 22.9 seconds by 2,7 seconds. What was Tashya's time in seconds?

   (A) 25.1 (B) 25.6 (C) 25.9 (D) 26.6 (E) 27.6

9. The actual distance between Beachwood and Pearlwood is 480km. The map distance is 20cm. If the actual distance between Pearlwood and Gemwood is 192km then determine the map distance between the two towns in cm.

   (A) 8 (B) 9 (C) 10 (D) 11 (E) 12

10. When the 4 digit number 34m7 is divided by 7 the remainder is 2. The value of m is ...

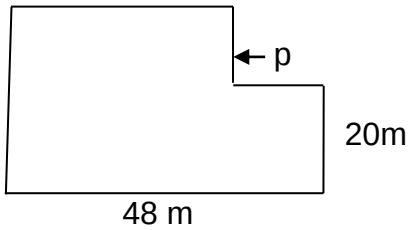
    (A) 5 (B) 6 (C) 7 (D) 8 (E) 9

11. Determine the fraction $x$ such that $\frac{1}{4}$ is midway between $x$ and $\frac{1}{3}$

    (A) $\frac{1}{9}$ (B) $\frac{1}{8}$ (C) $\frac{1}{7}$ (D) $\frac{1}{6}$ (E) $\frac{1}{5}$

12. If $\frac{2}{5}$ of the gemstones is 160 then find $\frac{1}{2}$ of the gemstones.
(A) 180 (B) 200 (C) 210 (D) 220 (E) 230

13. If the perimeter of the following figure is 168m then find the value of 'p'




(A) 12m (B) 14m (C) 16m (D) 18m (E) 20cm

14. In a cinema there are 50 seats per row. Each row has 40 seats. The first 500 pay R80 per ticket an the rest pay R120. The expected revenue for a film if all the seats are occupied is….
(A) R300 000 (B) R280 000 (C) R260 000 (D) R240 000 (E) R220 000

15. How much does 2 litres of oil cost if 750 ml cost R12 at the same rate?
(A) R32 (B) R34 (C) R36 (D) R38 (E) R40

16. In 6 years time Sue will be half her father's age. How old was her father when Sue was born? Her father is 44 years old.
(A) 23 (B) 24 (C) 25 (D) 26 (E) 27

17. A pool has length which is 10m more than its width. If the perimeter is 60m then the width is…
(A) 13m (B) 12m (C) 11m (D) 10m (E) 9m

18. An article was marked down by 0,1 and then later reduced by further 0,2. What was the decrease as a decimal fraction?
(A) 0.25 (B) 0,26 (C) 0,27 (D) 0.28 (E) 0,29

19. 100 natural numbers were arranged from 51 to 150. Every 3rd number was struck off starting with 51. Of the remaining numbers every 4th number was struck off. How many even numbers remained?
(A) 32 (B) 33 (C) 34 (D) 35 (E) 36

20. In the set of 30 natural numbers from 1 to 15 the sum of two numbers is found such that it is divisible by 7. How many such combinations are there?
( A) 8 (B) 9 (C) 10 (D) 11 (E) 12

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**FEMSSISA**
**(SAPMO)**
**GRADE SEVEN**
**ROUND ONE**
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**GRADE SEVEN 2018**

1. Evaluate 16-(2+3)x3

(A) 0 (B) 1 (C) 2 (D) 3 (E) 4

Write down the value of

2. 1.2 x 0.2 x 0.1

(A) 0.14 (B) 0.014 (C) 2.4 (D) 0.24 (E) 0.024

3 . Find the value of $\frac{15}{21} \; x \; (2 - \frac{3}{5})$

(A) -1 (B) 0 (C) 1 (D) 2 (E) 3

4. Find the value of:

121 x 120 – 121 x110 – 121 x 10

(A) 12100 (B) 1210 (C) 121 (D) 120 (E) 0

5. Warren beat the 800 metres school record by 1.9 seconds. What is the new record in seconds if the old record was 1min 58 seconds ?

(A) 119.1 (B) 118.1 (C) 117.1 (D) 116.1 (E) 115.1

6. In the following subtraction problem find A x B if

A A A

- B B

6 8 9

(A) 42 (B) 46 (C) 56 (D) 63 (E) 72

7. If $\frac{5}{9}$ of the bricks in the stack is 900 then find half of the bricks in the stack.

(A) 810 (B) 900 (C) 1050 (D) 1100 (E) 1200

8 The map distance between Carinthia and Ebony is 33cm. The actual distance between Ivory and Midway is 600km.. The map distance between these two towns is 15cm. What is the actual distance in km between Carinthia and Ebony?

(A) 960 (B) 1080 (C) 1200 (D) 1320 (E) 1440

9 This is a Fibonacci type sequence

3;3;9;15;……..

If the n$^{th}$ term x $11$ = sum of the first 10 terms then $n$ =

(A) 6 (B) 7 (C) 8 (D) 9 (E) 10

10. If $\frac{1}{6} + \frac{3}{n} = \frac{13}{24}$ then the value of 'n' is…

(A) 6 (B) 8 (C) 10 (D) 12 (E) 14

11. When 549 is divided by p the remainder is 21. What is the smallest value p can have?

(A) 528 (B) 22 (C) 23 (D) 24 (E) 35

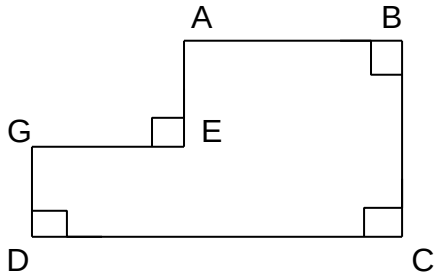
12. If the sum of the 4 consecutive Fridays of the month is 58 then give the date of the second Wednesday of that month.

(A) 8th (B) 9th (C) 15th (D) 16th (E) 17th

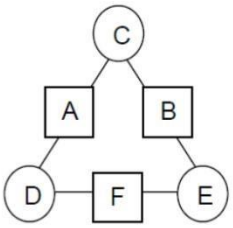
13. The cost of fencing this lawn ABCDGE at R240 per metre amounted to R43 200

If BC = 50 metres and AB = 25 metres then give the measurement of GE in metres.

(A) 18 (B) 17 (C) 16 (D) 15 (E) 14




14. The product of the two numbers in the two circles gives the number in the square between them. If C x D = A = 48; C x E = B = 24 and C+ D + E = 18 then give the value of F




(A) 32 (B) 33 (C) 34 (D) 35 (E) 36

15. Cindy had $\frac{1}{3}$ as much money as Dino. After each spent an equal amount Cindy had R100 of her money left whilst Dino had ¾ left. How much did each one spend?

(A) R480 (B) R420 (C) R360 (D) R300 (E) R240

16. The number of two-rand coins I need to pay for a purchase is 15 more than the number of five-rand coins I need to pay for the same purchase. What is the cost of the purchase?

(A) R35 (B) R40 (C) R45 (D) R50 (E)R55

17 .A;B and C are the digits of the 3 digit number ABC
The product of A and B equals 20.
The product of A and C equals 40
The sum of B and C equals 12.

A x B x C =…

(A) 130 (B) 140 (C) 150 (D) 160 (E) 170

18. Six years ago Belinda would have been one year less than half her age in 6 years time. In 6 years time her age would be 26. What is her age now?

(A) 12 (B)14 (C)16 (D)18 (E)20

19. 6 workers can build a wall in 8 days. How long in days will it take 4 workers to build the same such wall if all work at their same rate?

(A) 6 (B) 8 (C) 10 (D) 12 (E) 14

20 144 health muffins and 192 cones were shared equally among all the learners present. What is the largest number of learners that could have been present?

(A) 44 (B) 48 (C) 52 (D) 56 (E) 60

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