SOUTHERN AFRICAN PRIMARY MATHEMATICS OLYMPIAD

FEMSSISA

(SAPMO)

GRADE FOUR

ROUND ONE

DATE: 7-10 AUGUST 2017

TIME: 90 MINUTES

Instructions:

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2. Use the answer sheet provided. Circle the letter corresponding to your answer.
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4. Diagrams are not necessarily drawn to scale.
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NON PROFIT MAKING COMPANY

REGISTRATION NO: 2015/050119/08

GRADE FOUR 2017

1. Find

   □ - 20 = 26 – □

   (A) 26 (B) 21 (C) 22 (D) 23 (E) 26

2. Which one of the following has the remainder 1?

   (A) 703÷3 (B) 503÷4 (C) 702 ÷ 7 (D) 504 ÷ 8 (E) 776 ÷7

3. B B B

   – A A

   2 8 9. What is AA?

   (A) 77 (B) 66 (C) 55 (D) 44 (E) 33

4. How many days are there from 20 February 2017 to 27 April 2017?

   (A) 64 (B) 65 (C) 66 (D) 67 (E) 68

5. The number four thousand and twelve can be written as

   (A) 4 112 (B) 4 012 (C) 4 102 (D) 4 0012 (E) 4 00012

6. Four teddy bears cost R122. How much will 8 such teddy bears cost at the same rate?

   (A) R61 (B) R224 (C) R244 (D) R284 (E) R122

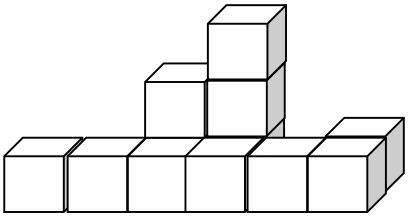
7. What is the 10^{th} number of this addition sequence 6; 10; 14; 18; …

   (A) 40 (B) 42 (C) 46 (D) 50 (E) 60

8. What time did the clock show 2 hours and 50 minutes ago?

   (A) 05:20 (B) 07:20 (C) 05:30 (D) 06:30 (E) 13:00

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



(A) 9 (B)10 (C) 11 (D) 12 (E) 13

10. Kandy has a certain amount of money. After spending $\frac{1}{4}$ of the money he still has R60 left. How much did he begin with?

(A) R72 (B) R76 (C) R80 (D) R84 (E) R75

11. Both the digits are even. The tens-digit is greater than the ones-digit. The ones-digit is not a multiple of 3. The sum of the two digits is a multiple of 5. Which number is this?

(A) 28 (B) 87 (C) 46 (D) 86 (E) 64

12. Three children, Alan, Brenda and Carlos collected R620 for charity.
Alan collected twice the amount Brenda collected. Carlos collected R60 more than Brenda. How much did Carlos collect?

(A) R140 (B) R160 (C) R180 (D) R200 (E) R220

13. Mum placed a cake in the oven at 08:15. If it takes 1 hour 15 minutes to bake, then at what time should it be taken out of the oven?

(A) 10:15 (B) 9:55 (C) 9:45 (D) 9:35 (E) 9:30

14. Find the value of A + B + C if A B C

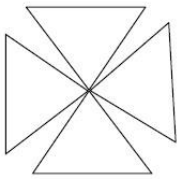
B C

(A) B C

7 6 2

(A) 12 (B) 13 (C) 14 (D) 15 (E) 16

15. How many lines of symmetry does this shape have?



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

16. At school A the bell rings every half hour and at school B the bell rings every 35 minutes. If the two bells ring together at 08:00, when will they ring together again?

(A) 10:30 (B) 10:55 (C) 11:30 (D) 12:00 (E) 12:05

17. Lee removed all the multiples of 2 and 3 from the numbers 50 to 100? How many numbers remained?

(A) 16 (B) 17 (C) 18 (D) 19 (E) 20

18. Jackie has four cards. How many different two-digit numbers can she make with these cards?

3	2	4	1

(A) 9 (B) 12 (C) 16 (D) 4 (E) 6

19. Jason and Mary have 96 stamps altogether. If Jason has twice as many stamps as Mary, how many stamps does Mary have?

(A) 48 (B) 46 (C) 32 (D) 16 (E) 44

20. An equal number of 50 cent; 20 cent and 5 cent pieces were in the container. When added the total amount was R72. How many 5 cent pieces were there?

(A) 92 (B) 96 (C) 100 (D) 104 (E) 106

MARKS: 15 X 1 = 15

5 X 2 = 10

TOTAL: 25

SOUTHERN AFRICAN PRIMARY MATHEMATICS OLYMPIAD

FEMSSISA

(SAPMO)

GRADE FIVE

ROUND ONE

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NON PROFIT MAKING COMPANY

REGISTRATION NO: 2015/050119/08

GRADE FIVE 2017

1. Evaluate : 20 - 1 x 7

   (A) 26 (B) 27 (C) 28 (D) 13 (E) 30

2. Determine ☐ such that (16 - ☐) x 4 = 40

   (A) 4 (B) 10 (C) 6 (D) 16 (E) 40

3. If 12 x ☐ = 48 then 36 x ☐ = …

   (A) 144 (B) 3 (C) 96 (D) 136 (E) 94

4. The estimation of R20,45 + R9, 86 + R 7,62 is

   (A) R32 (B) R34 (C) R36 (D) R38 (E) R40

5. How many times can 25 be subtracted from 2025 ?

   (A) 81 (B) 181 (C) 9 (D) 16 (E) 41

6. How many days are there from 20 January 2016 to 20 March 2017?

   (A) 59 (B) 60 (C) 61 (D) 62 (E) 63

7. If 101 x 17 = 1717 then 101 x 16 =…

   (A) 100 x 17 + 17 (B) 1717 - 101 (C) 1717 -17 (D) 1730 (E) 10116

8. How many 150 ml bottles of juice can be filled from 9150 ml container of juice?

   (A) 65 (B) 64 (C) 63 (D) 62 (E) 61

9. If $\frac{2}{3}$ of my money is R90 then how much money do I have?

   (A) R 95 (B) R 100 (C) R 135 (D) R115 (E) R70,23

10. Which is the smallest?

    (A) 2,5m (B) 2,051m (C) 2,05m (D) 2,046m (E) 2,505m

11. If 3 litres of oil cost R35 .How much will 9 litres of oil at the same rate cost?

    (A) R109 (B) R108 (C) R107 (D) R106 (E) R105

12. An equal number of 20 cent and 50 cent pieces were obtained from R140 notes. How many 20 cent pieces were obtained?

    (A) 100 (B) 150 (C) 200 (D) 250 (E) 300

13. A rectangular garden measures 90 m all round. If the length is 5 m more than its width then find the length in metres.

    (A) 25m (B) 24m (C) 23m (D) 22m (E) 21m

14. How many 1,25m lengths can you cut from a board which is 20 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?

    3*5 = 28 4*6= 40 5*4 = 21

    After you have discovered what (*) is doing then find the answer to (2*3)*5

    (A) 36 (B) 38 (C) 25 (D) 235 (E) 10

16. Penny had a secret number. When the number was doubled and 15 subtracted from it the result was 25. What was Penny's secret number?

    (A) 20 (B) 21 (C) 22 (D) 23 (E) 40

17. ABCD is a rectangular field with poles placed 2m apart. There were 10 poles on the length and 5 on the width. Find the perimeter of the field. (distance all round)

    (A) 52 m (B) 64 m (C) 65 m (D) 66 m (E) 37 m

18. The numbers on three cards were added 2 at a time to give 34; 32 and 30. Find the smallest number.

    (A) 12 (B) 14 (C) 16 (D) 18 (E) 98

19. Des was given a $\frac{1}{4}$ of the price as a discount. He paid R480. What was the initial price of the article?

    (A) R540 (B) R600 (C) R640 (D) R700 (E) R120

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

    WW R WW RR WW RRR WW RRRR WW RRRRR ….

    How many are red beads?

    (A) 94 (B) 95 (C) 96 (D) 97 (E) 98

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SOUTHERN AFRICAN PRIMARY MATHEMATICS OLYMPIAD

FEMSSISA

(SAPMO)

GRADE SIX

ROUND ONE

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NON PROFIT MAKING COMPANY

REGISTRATION NO: 2015/050119/08

GRADE SIX 2017

1. Evaluate : $4 + \frac{1}{2}$ x 4

   (A) 4 (B) 5 (C) 6 (D) 7 (E) 8

2. What is (7 ÷ 6) correct to 2 decimal digits?

   (A) 1.16 (B) 1.17 (C) 1.18 (D) 1.19 (E) 1.20

3. If 4n + 4 = 44 then n =…

   (A) 10 (B) 11 (C) 14 (D) 16 (E) 48

4. Evaluate 98 x 97 - 97 x 97

   (A) 99 (B) 98 (C) 97 (D) 96 (E) 9897

5. What is the best estimate of 600 g of chocolates at R49.99 per kg?

   (A) R24 (B) R30 (C) R36 (D) R38 (E) R40

6. In the following addition problem find A x B x C

   (A) B C

   A B C

   A B C

   1 0 6 8

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

7. A vendor sold $\frac{3}{5}$ of the pockets of potatoes. After selling 20 more pockets the vendor had $\frac{3}{20}$ of the pockets left. How many pockets did the vendor start with?

   (A) 150 (B) 120 (C) 110 (D) 100 (E) 80

8. Sasha beat the 400 metres school record which was 49.1 seconds by 1,3 seconds. What was the new record in seconds?

   (A) 47.8 (B) 47.6 (C) 47.5 (D) 47.4 (E) 47.3

9. The actual distance between Appleberry and Peachwood is 360km. The map distance is 30cm. If the map distance between Peachwood and Pembury is 12cm then determine the actual distance between the two towns in km.

   (A) 136 (B) 140 (C) 144 (D) 148 (E) 160

10. When the 4 digit number 202m is divided by 6 the remainder is 0. The value of m is ...

(A) 0 (B) 2 and 8 only (C) 4 and 8 (D) 8 only (E) 6

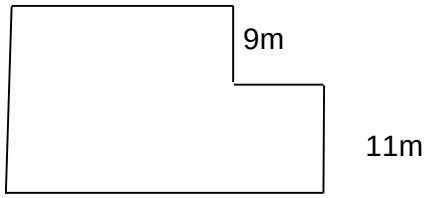
11. Determine the fraction x such that $\frac{2}{3}$ is midway between x and $\frac{9}{10}$.

(A) $\frac{2}{5}$ (B) $\frac{23}{30}$ (C) $\frac{13}{30}$ (D) $\frac{7}{15}$ (E) $\frac{47}{60}$

12. If $\frac{3}{20}$ of n = R90 then find $\frac{1}{10}$ of the value of n.

(A) R270 (B) R320 (C) R60 (D) R40 (E) R30

13. Determine the perimeter of the following figure.



(A) 56m (B) 112m (C) 72m (D) 40m (E) 92cm

14. A cricket stadium has 100 seats per row. There are 60 rows. The first 2000 pay R60 per ticket and the rest pay R100 per ticket. The expected revenue for a match is…

(A) R520 000 (B) R480 000 (C) R440 000 (D) R400 000 (E) R360 000

15. How much does 5 litres of oil cost if 750 ml cost R11.10 at the same rate? (A) R70 (B) R74 (C) R85 (D) R90 (E) R95

16. Princess is 16 years and her father is 40. In how many years' time will her father's age be twice her age?

(A) 24 (B) 6 (C) 8 (D) 12

(E) 28 17. A pool has length which is twice its width. If the perimeter is 84 m then the length is…

(A) 24m (B) 28m (C) 32m (D) 36m (E) 40m

18. An article was marked up by 0,1 and then reduced by 0,2. What was the decrease as a decimal fraction?

(A) 0.12 (B) 0,13 (C) 0,14 (D) 0,3 (E) 0,21

19. 100 natural numbers were arranged from 101 to 200. Every 4^{th} number was struck off starting with 101. Of the remaining numbers every 3^{rd} number was struck off. How many odd numbers remained?

(A) 13 (B) 17 (C) 21 (D) 23 (E) 25

20. In the set of 20 natural numbers from 1 to 20 the sum of two numbers is found such that it is divisible by 9. How many such combinations are there?

(A) 8 (B) 26 (C) 41 (D) 55 (E) 63

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GRADE SEVEN 2017

1. Evaluate 4 + 5 x 6

   (A) 29 (B) 34 (C) 54 (D) 60 (E) 120

2. Write down the value of

   1.1 x 1.1 x 0.1

   (A) 0.121 (B) 1.21 (C) 12.1 (D) 0.0121 (E) 1.0121

3. Find the value of $\frac{4}{5} \times \left(\frac{5}{6} - \frac{5}{8}\right)$

   (A) $\frac{1}{2}$ (B) $\frac{1}{3}$ (C) $\frac{1}{4}$ (D) $\frac{1}{5}$ (E) $\frac{1}{6}$

4. Find the value of:

   110 x 110 – 110 x109

   (A) 109 (B) 1109 (C) 110 (D) 111 (E) 1210

5. Donovan beat the 400 metres school record which was 48.6 seconds by 0,7seconds. What was Donovan's time in seconds?

   (A) 49.3 (B) 47.9 (C) 46.9 (D) 50.3 (E) 51.3

6. In the following subtraction problem find A+B+C

   (A) B C
   C A
   5 1 9

   (A) 13 (B) 14 (C) 15 (D) 18 (E) 19

7. If $\frac{5}{8}$ of the blocks in the stack is 240 then find half of the blocks in the stack.

   (A) 162 (B) 172 (C) 182 (D) 192 (E) 480

8. The actual distance between Zenith and Harlem is 660km. The map distance is 44cm. The map distance between Zenith and Pomeroy is 26cm. What is the actual distance between Zenith and Pomeroy?

(A) 330km (B) 360km (C) 390km (D) 420km (E) 450km

9. This is a Fibonacci type sequence

2;2;4;6;10;……..

If the 7th term x n = sum of the first 10 terms then n =

(A) 7 (B) 8 (C) 9 (D) 10 (E) 11

10. If $\frac{1}{4} + \frac{5}{n} = \frac{2}{3}$ then the value of 'n' is…

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

11. When 455 is divided by p the remainder is 20. What is the highest value p can have?

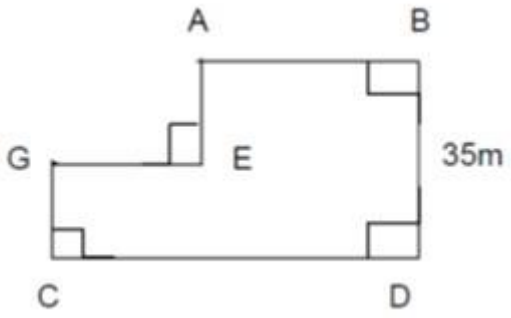
(A) 435 (B) 21 (C) 29 (D) 87 (E) 145 12.

If the sum of the 7 consecutive days of the month starting from Sunday is 42 then give the date of the last Thursday of that month.

(A) 25th (B) 26th (C) 28th (D) 29th (E) 30th 13.

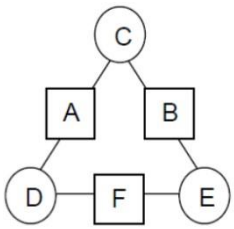
The cost of fencing this lawn at R120 per metre amounted to R18000.

If BD = 35 metres then give the measurement of CD in metres.



(A) 35 (B) 40 (C) 70 (D) 75 (E) 80

14. The sum of the two numbers in the two circles gives the number in the Square between them. If A = 30; B = 38 and D x E = 48 then give the value of F



(A) 15 (B) 16 (C) 22 (D) 23 (E) 24

15. Riva had half as much money as Senzo. After each spent an equal amount Riva had R100 of her money left whilst Senzo had ¾ left. How much more did Senzo have at the start?

(A) R400 (B) R500 (C) R600 (D) R700 (E) R800

16. The number of two-rand coins I need to pay for a purchase is 9 more than the number of five-rand coins I need to pay for the same purchase. What is the cost of the purchase?

(A) R18 (B) R45 (C) R63 (D) R30 (E)R17

17 . A;B and C are the digits of the 3 digit number ABC

The sum of A and B equals 11.

The sum of A and C equals 16.

The sum of B and C equals 13.

B x C =…

(A) 36 (B) 28 (C) 63 (D) 24 (E) 32 18.

Eight years from now, Brenda will be twice the age she was six years ago.

What is her age now?

(A) 4 (B)8 (C)12 (D)20 (E)36

19. 4 workers can build a wall in 9 days. How long in days will it take 6 people to build the same such wall if all work at their same rate?

(A) 4 (B) 5 (C) 6 (D) 7 (E) 8

20. 432 sandwiches and 240 icecreams were shared equally among all the people present. What is the largest number of people that could have been present?

(A) 5 (B) 9 (C) 40 (D) 44 (E) 48

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