SOUTHERN AFRICAN PRIMARY MATHEMATICS OLYMPIAD FEMSSISA

GRADE 6

E-mail : Info@saolympiads .co.za website: www.saolympiads.co.za

DATE: 28 AUGUST 2023 – 1 SEPTEMBER 2023

TIME: 90 MINUTES

INSTRUCTIONS:

1. This booklet has 15 multiple choice and 5 open ended 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 1 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.
9. Visit the website: www.saolympiads.co.za.

GRADE SIX

1. Evaluate: 3 - $\frac{1}{3}$ x 3

   (A) 6 (B) 3 (C) 2 (D) 8

2. What is (23 ÷ 6) correct to 2 decimal digits?

   (A) 3.74 (B) 3.73 (C) 3.84 (D) 3.83

3. Evaluate: 201 x 174 - 172 x 201 - 201

   (A) 201 (B) 200 (C) 173 (D) 172

4. In the following addition problem find A x B x C =…..

$$\begin{array}{r} A\ B\ C \\ A\ B\ C \\ +\quad B\ C \\ \hline 8\ 2\ 5 \end{array}$$

   (A) 105 (B) 70 (C) 60 (D) 50

5. An oil container is $\frac{3}{4}$ full. After removing 120 litres of oil, $\frac{2}{3}$ remained. What is the capacity in litres of the container when full?

   (A) 1340 (B) 1440 (C) 1540 (D) 1640

6. What is the best estimate price of 700 g of low fat cheese at R129.99 per kg?

   (A) R81 (B) R91 (C) R101 (D) R112

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7. When the 5-digit number 34m53 is divided by 6 the remainder is 1. The value of m is ...

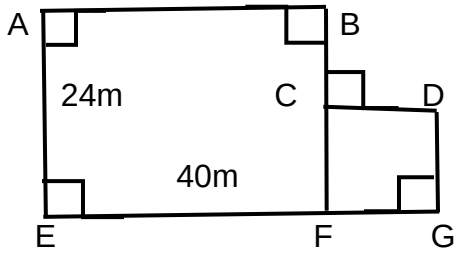
(A) 7 (B) 6 (C) 5 (D) 4

8. There were 6 white discs; 4 green discs and 3 orange discs in a container. What is the least number of discs that a blind folded person must remove to ensure that 4 white discs are taken out?

(A) 6 (B) 9 (C) 14 (D) 11

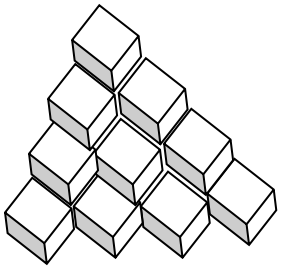
9. The perimeter of rectangle ABFE is twice the perimeter of pool CDGF.

If BC = DG then determine length in metres of FG.



(A) 18 (B) 20 (C) 22 (D) 24

10. This tower is 4 storey high and is made up of cubes. If 300 cubes were used to make the last storey then determine how many storey tower is this?



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

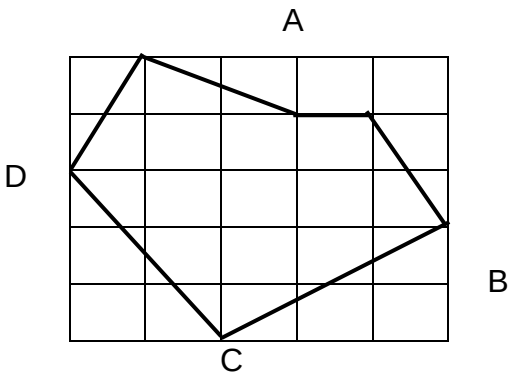
11. How many lines of symmetry does the following figure (made up of 4 equal squares) have if the extra square can be used?

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

12. Bunny is twice the age as Amy was 10 years ago. The combined ages of Bunny and Amy is 55. What is Amy's age?

(A) 30 (B) 25 (C) 20 (D) 15

13. Determine the area of ABCD (in cm^2) if each square is $1cm^2$.



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

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

(A) 16 (B) 12 (C) 10 (D) 8

15.

In a hotel the odd numbered rooms are made up in the following order:-
The worker started at a certain numbered room, then did the room 5 numbers to the right, the 9 rooms to the left and finally one room to the right numbered 5.
What room number did the worker start at?

(A) 9 (B) 11 (C) 13 (D) 15

16. 90 natural numbers were arranged from 11 to 100. Every 3rd number was struck off. Of the remaining numbers every 5th number was struck off. How many even numbers remained?

17. The average(mean) mark of 15 learners in a Mathematics Test is 21 whist the average(mean) mark of the first 9 learners is 15. What is the average(mean) mark of the last 6 learners?

18. If the product of 555 x 999 = 554445 then, the sum of the digits of the following product 55555555 x 99999999 is….

19. Determine the fraction x such that $\frac{1}{4}$ is midway between x and $\frac{7}{16}$.

20. Calculate the sum:-

3x3x3 + 4x4x4 + 5x5x5 +…..+ 24 x 24 x 24

MARKS: 1-15: 15 X 1 = 15
16-20: 5 X 2 = 10

TOTAL: 25