MATHEMATICS OLYMPIAD GRADE THREE

DATE: 12 AUGUST 2024 – 16 AUGUST 2024

TIME: 75 MINUTES

INSTRUCTIONS:

1. This booklet has 12 multiple choice questions and 3 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 10 problems carry 1 mark each and the next 5 carry 2 marks each.
7. You have 75 minutes for the paper which works out to an average of 5 minutes per question.
8. Read the questions carefully before answering.
9. The teacher will read the question to you.
10. Visit the website: www.saolympiads.co.za.

ENJOY THE OLYMPIAD!

GRADE THREE

1. Find the value of ☐ which will make this sentence true.

60 - ☐ - ☐ - ☐ = 15

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

2. Each letter in the following addition problem represents a digit.

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

What is the value of A + B?

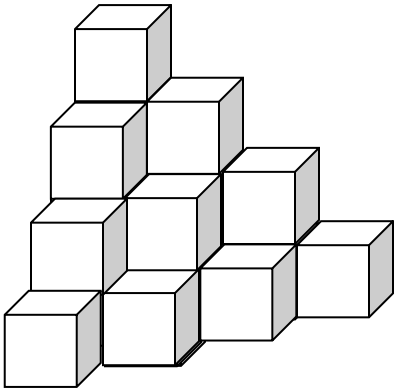
(A) 11 (B) 12 (C) 13

3. Write down the 16th number of this addition pattern:
5; 11; 17; 23; 29;…

(A) 95 (B) 96 (C) 97

4. Aryn counted in 5's as follows from 10:
10; 15; 20; 25;….
Determine the units digit of the 120th term.
(A) 0 (B) 1 (C) 5

5. The total number of cubes in this arrangement is…



(A) 25 (B) 20 (C) 18

6. In the game below no number must appear more than once in a row, column or in a 2 by 2 block (shaded).
Use only 3; 5 ; 7 and 9.
What number would be at X?

			9
5		3	
			X
	7		

(A) 7 (B) 5 (C) 3

7. Luke gave out $\frac{2}{3}$ of the coins which was the same as 120.
   What is $\frac{1}{4}$ of the coins?

   (A) 40 (B) 45 (C) 50

8. Guess the number I stand for:

   - I am a 3 digit number.
   - My hundred's digit is 3 more than my unit's digit.
   - The sum of my digits is 13.
   - My hundred's digit is half of my ten's digit.

   (A) 360 (B) 481 (C) 241

9. If 48 x ☐ = 126, then what is 16 x ☐ = ...

   (A) 42 (B) 50 (C) 63

10. Each letter in the following subtraction problem represents a digit.

What is the value of A x B?

$$\begin{array}{r} A\ 3\ A \\ -\ \ B\ 7 \\ \hline B\ 9\ 7 \end{array}$$

(A) 28 (B) 18 (C) 12

11.

There are 36 trees on each of sides AB and CD.
There are 24 trees on each of sides AC and BD.
At each corner A; B; C and D there is a tree.
The total number of trees in this arrangement is…

(A) 112 (B) 116 (C) 120

12. Barry makes 3 kites in 20 minutes.
Vernie makes 4 kites in 30 minutes.
If both work together and at the same rate then how many kites could be made in 2 hours.

(A) 32 (B) 34 (C) 36

13. Try to work out what # is doing to the 2 numbers.

3 # 1 = 8	**4 # 4 = 8**
4 # 3 = 9	**5 # 5 = 10**

Now find the answer to :-
8 # 4

14. When Molly counted the sweets in 3's she had none left over.
When she counted in 4's she had 1 left over.
What is the smallest number of sweets that she could have counted if she had more than 9?

15. Leanne was trying to work out the correct 3-digit number so that he could open her bag.
She was given the following clues. (If 1 correct is given then it means that 1 digit is correct and in the correct place).
Work out Leanne's correct number.

325 …….. 1 correct
254 …….. 1 correct
543 …….. 1 correct
354 …….. 1 correct

END