

PRIMARY SCHOOL CHALLENGE 2020

LEVEL 1 CHALLENGE GRADE 5 ROUND TWO

INSTRUCTIONS

1. The time allocated for this paper is $1\frac{1}{2}$ hours.
All participants must remain for the full allocated time.
Under no circumstances may extra time be given.
2. This paper consists of two sections.
Section A consists of 10 multiple choice questions.
Section B consists of 5 questions where working out must be shown.
3. Question 1 – 10 are worth 2 marks each.
Question 11 – 15 are worth 4 marks each.
4. Negative marking will not be applied.
5. Calculators (and other calculating devices) and geometry instruments are not allowed.
6. Figures are not necessarily drawn to scale.
7. Answer all questions on the answer sheet provided.
8. Circle the letter you have chosen as your answer in pen for Section A (Questions 1 – 10).
Should you wish to change an answer, put a cross over the letter and then circle your new chosen letter.
9. For Section B (Questions 11 – 15), full working must be shown in the space provided.
Your final answer must be written in the allocated space.
10. Paper may be used for rough working.

SECTION A

1. What is the value of $8 \times 2 - (4 \div 4) + 3$?

- A. 15 B. 18 C. 3 D. 23 E. 14

2. Seven pupils were asked to choose a number between 1 and 10, with both 1 and 10 included in the possible choice. Two pupils chose number 4 and two chose number 8. The other numbers chosen were all different and were not the same as any other number chosen. What was the maximum (largest) possible sum of all seven chosen numbers?

- A. 51 B. 47 C. 52 D. 64 E. 50

3. What is the sum of the missing digits M, N, P, and R in the following sum?
($M+N+P+R=?$)

$$\begin{array}{r} 3M94 \\ + \underline{64N7} \\ \hline PR131 \end{array}$$

- A. 12 B. 10 C. 9 D. 8 E. 11

4. The average weight of four children is $10\frac{1}{2}$ kg. Brian joins the group, and the average weight of the five children is 11kg. How much does Brian weigh?

- A. 12 kg B. $9\frac{1}{2}$ kg C. $11\frac{1}{2}$ kg D. 11 kg E. 13 kg

5. If $2 ; 4 ; 3 = 26$
 and $3 ; 3 ; 4 = 33$
 and $4 ; 3 ; 5 = 47$

What is the value of $1 ; 6 ; 4$?

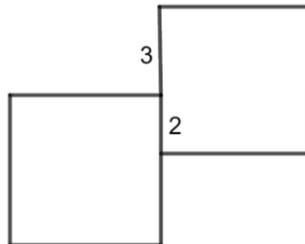
- A. 21 B. 11 C. 34 D. 26 E. 36

6. What is the value of the sum shown below?

$$2020 + 19 - 18 + 17 - 16 + 15 - 14 + \dots + 5 - 4 + 3 - 2 + 1$$

- A. 2029 B. 2021 C. 2031 D. 2030 E. 2042

7. The figure below shows two identical squares. The dimensions shown are in centimetres. What is the total outside perimeter of the figure?



- A. 40cm B. 33cm C. 37cm D. 36cm E. 35cm

8. A number is divisible by 3 if the sum of the digits of the number are divisible by 3. (Divisible by 3 means that there is no remainder after dividing the number by 3) Let $M = 81426E$, where E is the last digit of the 6-digit number M . If M is divisible by 3, how many different values can E have?

- A. 1 B. 2 C. 3 D. 4 E. 5

9. What digit is in the 2020th position in the following number pattern?

123455432112345543.....

- A. 1 B. 2 C. 3 D. 4 E. 5

10. A computer program is written to give an output for every input. Some of the data is shown in the table below.

INPUT	1	2	3	4	5	6	7
OUTPUT	4	7	10	13	?	19	22

What is the output when the input is 5?

- A. 15 B. 18 C. 17 D. 14 E. 16

SECTION B

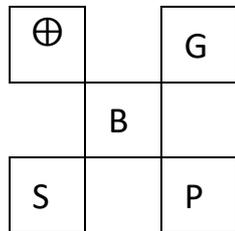
NB : Show all working and write your final answer in the allocated space.

11. The only way that 10 may be written as the sum of four different natural numbers is $1+2+3+4$. In how many different ways may 15 be written as the sum of four different natural numbers?

12. If $A = 3$, $B = 6$, and $C = \frac{1}{2}$, what is the value of:

$$(A \times B) + (B \div A) + (B \times C) - (A \times C) ?$$

13. A class of 24 girls met at a coffee shop. A cup of coffee and a slice of chocolate cake were on special for a combined price of R45.00. All the girls decided to have the special, but four of them forgot to bring along any money. How much extra did each of the other girls have to pay to settle the total cost owed if each of them shared the extra cost?
14. I'm thinking of a number. I multiply the number by 8 and then add 5 to get a new number. When I divide this new number by 7, the answer is 11. What number did I think of?
15. In the given diagram, the diagonals SBG and PB \oplus form a pattern using the following information: A=5, B=6,, Z=30.



There are two possible letters of the alphabet which replace \oplus ?

Determine either one of them.