BEYOND MATHS

PRIMARY SCHOOL CHALLENGE 2020

LEVEL 1 CHALLENGE
GRADE 5 ROUND ONE

INSTRUCTIONS

1. The time allocated for this paper is 1 hour.
   Under no circumstances may extra time be given.

2. This paper consists of 20 multiple choice questions.
   Each question only has one correct answer.

3. Questions 1-15 are each worth 1 mark. Questions 16-20 are each worth 2 marks.

4. Negative marking will not be applied.

5. Calculators (and other calculating devices) and geometry instruments are not allowed.

6. Figures are not drawn to scale.

7. Answer all questions on the answer sheet provided.

8. Circle the letter you have chosen as your answer in pen. Should you wish to change an answer, put a cross over the letter and then circle your new chosen letter.

9. Paper may be used for rough working.

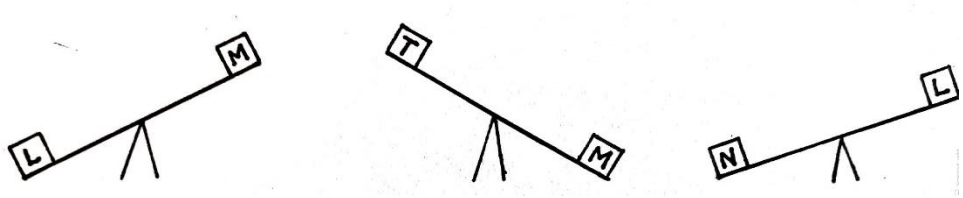
1. What is the value of $3 \times 2 + 2 \times 2 + 1 \times 2$?

(A) 11 (B) 6 (C) 15 (D) 12 (E) 10

2. A long-distance runner runs 200 kilometres in five days from Monday to Friday. After his run on Monday, he then runs 15 kilometres less than the previous day on each of the following days through to his final run on Friday. He ran 10 kilometres on Friday. How far did he run on Monday?

(A) $75km$ (B) $60km$ (C) $70km$ (D) $65km$ (E) $80km$

3. In the diagram, different weights L, M, N, and T are placed at the end of seesaws as shown. Written down left to right, lightest to heaviest, these are :



(A) T,N,L,M (B) M,L,N,T (C) L,M,T,N (D) N,L,T,M (E) T,M,L,N

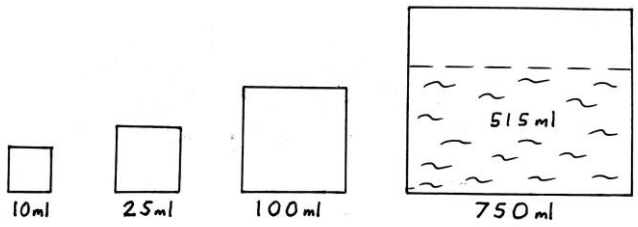
4. A family has five children, 3 girls and 2 boys. The children are to sit on a bench for a photograph. How many different ways can they all be seated if the younger boy sits on the left end of the bench and the older boy sits on the right end of the bench?

(A) 3 (B) 6 (C) 5 (D) 2 (E) 7

5. What is the value of $2020 + 2 + 0 + 20$?

(A) 2022 (B) 2042 (C) 2040 (D) 2060 (E) 2240

6. You are given three different sized small containers that can hold exactly 10ml, 25ml, and 100ml of water, together with a large container that can hold exactly 750ml of water. What is the least (smallest) number of times the three small containers can be used to leave <u>exactly</u> 515ml of water in the large container? (You may use any or all of the small containers as many times as you like)



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

7. On Day 1 a girl walks 2016 metres. Thereafter on each of the following days she walks half the distance she walked the day before. She cannot walk on a day when the distance to be walked contains a fraction of a metre. On what day will she finish walking?

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

8. The diagram shows a number pattern. What is the missing number?

3		6
	27	
11		?

(A) 17 (B) 19 (C) 22 (D) 18 (E) 20

9. We define a new operation ⊙ as follows: $A \odot B = 3 \times A - B$.
What is the value of $4 \odot 5$?

(A) 9 (B) 5 (C) 20 (D) 4 (E) 7

10. Brenda is 1200 days old. What birthday will she celebrate next?

(A) 3^{rd} (B) 5^{th} (C) 4^{th} (D) 2^{nd} (E) 6^{th}

11. Two lists are shown below. In LIST 1 choose the number that is a multiple of 3. In LIST 2 choose the number which is not a factor of 15. What is the sum of your two chosen numbers?

LIST 1	LIST 2
23	3
33	5
34	6
44	15

(A) 47 (B) 25 (C) 48 (D) 36 (E) 39

12. If $\frac{12}{?} = \frac{6}{10} = \frac{?}{5}$ what is the value of the sum of the two question marks?

(A) 19 (B) 23 (C) 18 (D) 22 (E) 24

13. What is the last digit of $2 \times 39 \times 17 \times 43 \times 13 \times 44 \times 5$?

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

14. Which number completes the following equation:

$$(31 + 27) + 17 = (27 + 17) + \_\_\_\ ?$$

(A) 17 (B) 27 (C) 0 (D) 31 (E) 48

15. What is the sum of the next two numbers in the number pattern:

1 ; 1 ; 2 ; 4 ; 3 ; 9 ; … … … … ?

(A) 14 (B) 25 (C) 21 (D) 12 (E) 20

16. What is the value of m if $2 + 25 \times \frac{6}{m} = 32$?

(A) 10 (B) 5 (C) 4 (D) 12 (E) 3

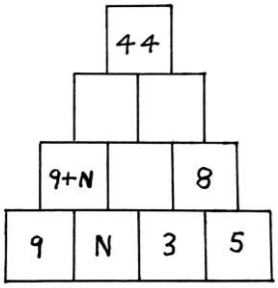
17. Brenda uses her calculator to perform a calculation. She makes a mistake and multiplies a number by 5 instead of dividing it by 5. The answer on the calculator is 600. What should the correct answer have been?

(A) 25 (B) 30 (C) 24 (D) 100 (E) 46

18. Thirteen children are walking their dogs in a park. Three of the children are each walking two dogs, and the other children are each walking one dog. Two children leave the park with their dogs. What is the least (smallest) possible number of legs left in the park?

(A) 78 (B) 68 (C) 44 (D) 70 (E) 66

19. In the drawing the sum of the numbers in any two lower boxes is equal to the number in the box directly above them, as shown. (e.g. $3 + 5 = 8$) What is the value of N?



(A) 4 (B) 8 (C) 2 (D) 7 (E) 1

20. The sum below has a correct answer of 6948, but exactly four of the digits in the numbers being added together are not written in their correct places. All digits are in their correct rows. What is the sum of the four digits which are not in their correct places?

$$\begin{array}{r} 25 \\ 931 \\ +\ \underline{8764} \\ 6948 \end{array}$$

(A) 25 (B) 24 (C) 18 (D) 21 (E) 32

********** END **********