

PRIMARY SCHOOL  
CHALLENGE 2021

**LEVEL 1 CHALLENGE**  
**GRADE 4 AND 5 ROUND ONE**

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**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  $(2021 - 21) \div 2 + 21$  ?

- (A) 1042      (B) 2021      (C) 1000      (D) 2000      (E) 1021

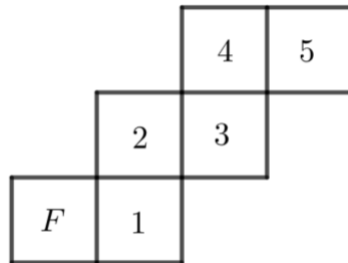
2. It's 2021. Four friends are aged 10, 11, 11, and 12. In which year will the sum of their ages total 120?

- (A) 2035      (B) 2041      (C) 2038      (D) 2040      (E) 2039

3. A water tank is  $\frac{3}{5}$  full. The tank can hold a total of 6500 litres of water. How many litres of water must be added to the tank in order to make it  $\frac{4}{5}$  full?

- (A) 1500      (B) 1450      (C) 1300      (D) 1400      (E) 1350

4. The net in the figure below may be folded into a cube. Which number will be on the face opposite face  $F$  ?



- (A) 1      (B) 2      (C) 3      (D) 4      (E) 5

5. There are a total of 2021 pupils in five primary schools. Three of the schools each have 380 pupils. Another of the schools has 510 pupils. How many pupils are there in the remaining school?

- (A) 391      (B) 1131      (C) 421      (D) 371      (E) 601

6. In the table below, the numbers in each column have the same relationship between  $U$  and  $V$ .

$U$	0,5	5	2,25	7,5
$V$	7	16	10,5	21

Which of the following correctly represents  $U$ ?

- (A)  $V \times 2 - 13,5$                       (B)  $1 + \frac{V}{4}$                       (C)  $0,5 \times V + \frac{3}{2}$   
 (D)  $V - \frac{V}{2} - 3$                       (E)  $\frac{V}{2} + 3$

7. Beverley is making glasses of fresh orange juice. She uses  $4\frac{1}{2}$  oranges for one glass. How many glasses of orange juice can she make using 45 oranges?

- (A) 9              (B) 12              (C)  $4\frac{1}{2}$               (D) 10              (E) 11

8. On a map, a measured length of 1 centimetre represents 20 kilometres on the actual ground represented by the map. Brenda measures a length of 17 millimetres between two points on the map. How far apart are the two points on the actual ground in kilometres?

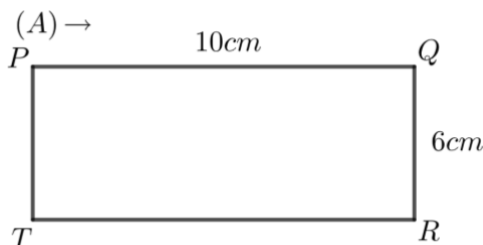
- (A) 17              (B) 44              (C) 37              (D) 34              (E) 47

9. If  $\frac{16}{24} = \frac{D}{3} = \frac{32}{E} = \frac{F}{12}$ , what is the value of  $D + E + F$ ?

- (A) 58              (B) 64              (C) 48              (D) 50              (E) 40

10. How old was Alan 8 years ago if  $m$  years ago he was  $n$  years old?
- (A)  $n + m + 8$  (B)  $m - n - 8$  (C)  $m - n + 8$  (D)  $n + m - 8$  (E)  $n - m - 8$
11. In a game between 3 teams, Team B scored 15 points more than Team A. Team C scored 8 points less than Team A. If Team B scored 44 points, what did Team C score?
- (A) 51 (B) 21 (C) 37 (D) 28 (E) 18
12. What is the value of  $2021 + 20 + 21 + 2 + 0 + 2 + 1$ ?
- (A) 2057 (B) 2065 (C) 2077 (D) 2067 (E) 2075
13. Using each digit from the number 2021 only once (2 must be used twice), what is the difference between the largest possible 4-digit number and the smallest possible 4-digit number?
- (A) 981 (B) 1010 (C) 1188 (D) 990 (E) 1199
14. Which of the following is the biggest?
- (A)  $\frac{1}{2} \times 30$  (B)  $\frac{1}{3} \times 39$  (C) 13,5 (D)  $\frac{1}{4} \times 56$  (E)  $\frac{1}{5} \times 70$
15. It's August in 2021 and Megan's birthday today. On the same day seven years ago, Megan was 9 years old. How old will Megan be on this day in 2030?
- (A) 27 (B) 25 (C) 23 (D) 26 (E) 24

16. An ant,  $A$ , is resting at point  $P$  of the rectangle  $PQRT$  below. The rectangle has length  $PQ = 10\text{cm}$  and width  $QR = 6\text{cm}$ . The ant begins crawling around the perimeter of the rectangle in a clockwise direction at a speed of  $1\text{cm}$  per second. (1 centimetre per second) The ant stops crawling after 2 minutes. How far is the ant from  $T$ ?

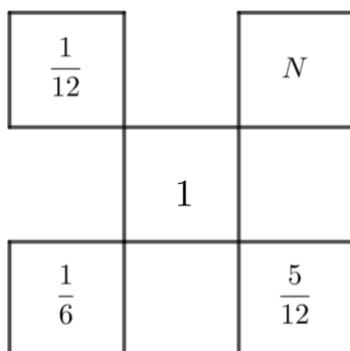


- (A)  $2\text{cm}$       (B)  $3\text{cm}$       (C)  $4\text{cm}$       (D)  $5\text{cm}$       (E)  $6\text{cm}$

17.  $M$  and  $N$  are fractions between 0 and 1. Which of the following is true?

- (A)  $M + N$  is always greater than 1      (B)  $M \times N$  is always greater than 1  
 (C)  $M + N$  is always less than 1      (D)  $M - N$  is always greater than  $M$   
 (E)  $M \times N$  is always less than 1

18. The figure below shows a hidden addition number pattern. What is the value of  $N$ ?



- (A)  $\frac{3}{12}$       (B)  $\frac{2}{3}$       (C)  $\frac{5}{6}$       (D)  $\frac{1}{3}$       (E)  $\frac{7}{12}$

19. I'm standing in a queue of pupils all facing the front.

- I'm 2 places behind Mlu.
- Shamla is 2<sup>nd</sup> in the queue and 8 places ahead of me.
- Mlu is in 7<sup>th</sup> place from the back of the queue.

How many pupils are standing in the queue?

- (A) 14      (B) 12      (C) 15      (D) 11      (E) 16

20. Four new operations are defined as follows:

- $N \uparrow$  means  $N \times 2$
- $N \downarrow$  means  $N \div 2$
- $N \rightarrow$  means  $N + 2$
- $N \leftarrow$  means  $N - 2$

What is the value of:  $4 \uparrow (4 \rightarrow) - 4 \downarrow (4 \leftarrow)$  ?

- (A) 34      (B) 14      (C) 4      (D) 24      (E) 44

\*\*\*\*\* END \*\*\*\*\*