PRIMARY INTERHOUSE MATHEMATICS TEAM

CHALLENGE 2023

# YEARS 5-6 TEAM EVENT Time: 30 minutes

**(*Calculators are allowed)* Total: 100 points\_**

***Please write answers on the answer sheet.***

**T 1. (16 points)**

Ben was born on the 9th January,1999. In 2021 his birthday falls on a Saturday. On what day of the week was he born?

**T 2. (24 points)**

Triangular numbers are:

1, 3, 6, 10, 15, 21, ….

Palindromic numbers are the same forwards and backwards. Some examples are: 121, 222, 363, 1441, etc.

What is the smallest 3-digit number which is both a palindromic number and a triangular number?

**T 3. (12 points)**

How many factors does 1024 have, including 1 and 1024?

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**T 4. (20 points)**

Mr and Mrs Smith take their three children to the movies and sit in a row of five seats. How many seating arrangements are possible if Mr and Mrs Smith must sit next to each other?

**T 5. (16 points)**

An average human brain has approximately 86 billion neurons. After a stroke, 1.9 million neurons are destroyed every minute. What percentage of a human brain would be destroyed after a stroke that lasted 23 minutes? Round to two decimal places.

**T 6. (12 points)**

Six is first perfect number since its factors add to six. (1 + 2 + 3 = 6). What is the second perfect number? (Hint: It is less than 50)

### **2023 INTERHOUSE MATHS TEAM CHALLENGE**

#### **YEARS 5-6 TEAM EVENT**

RESPONSE SHEET

|  |  |  |
| --- | --- | --- |
| Question | Answers | Points |
| **T1.** (16 points) |  |  |
| **T2.** (24 points) |  |  |
| **T3.** (12 points) |  |  |
| **T4.** (20 points) |  |  |
| **T5.** (16 points) | \_\_\_\_ |  |
| **T6.** (12 points) |  |  |

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| House | Total Score |

### **2023 INTERHOUSE MATHS TEAM CHALLENGE**

#### **PRIMARY (Year 5 & 6)**

TEAM EVENT

**ANSWER SHEET**

|  |  |  |
| --- | --- | --- |
| Question | Answers | Points |
| **T1.** (16 points) | Saturday |  |
| **T2.** (24 points) | 171 |  |
| **T3.** (12 points) | 11 |  |
| **T4.** (20 points) | 48 |  |
| **T5.** (16 points) | 0.05% or 0.051% |  |
| **T6.** (12 points) | 28 |  |