Team Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ School: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

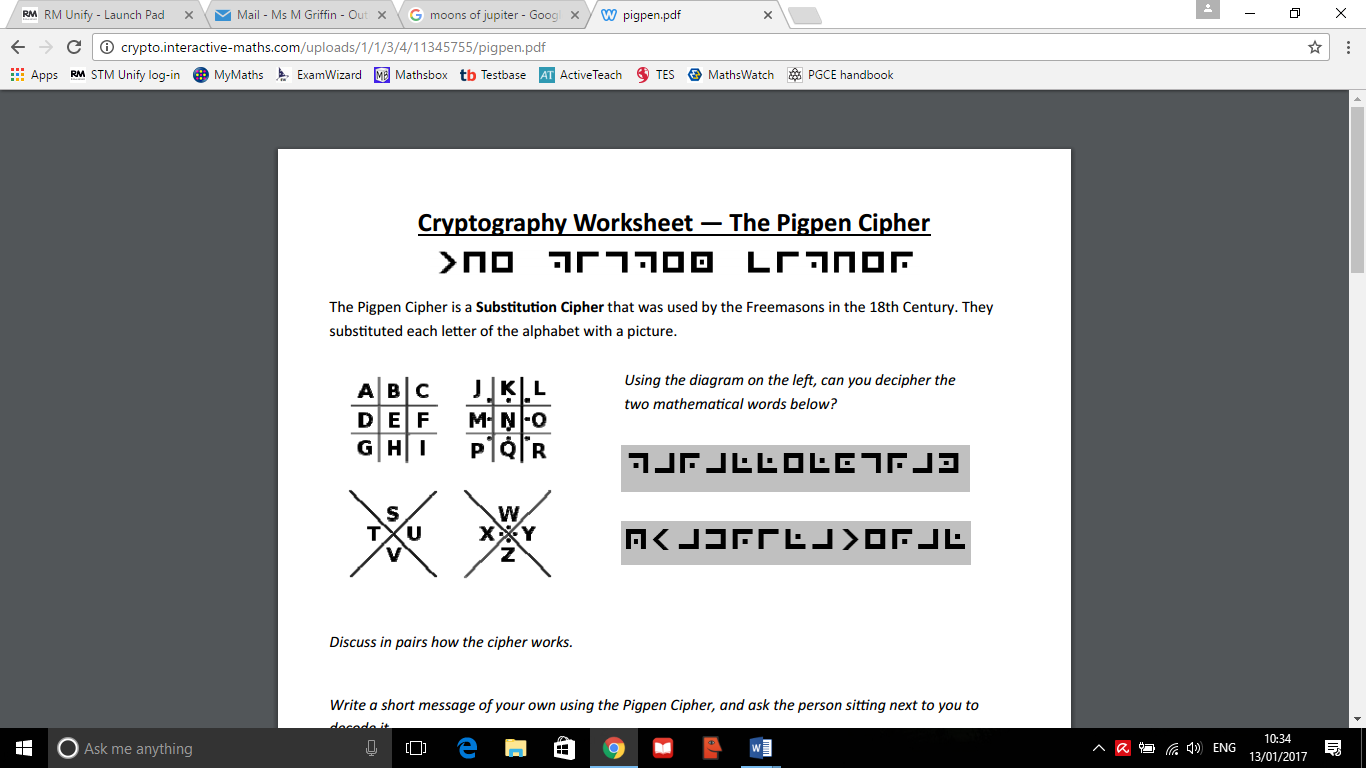
|  |  |
| --- | --- |
| **Murder in the Space Station** | |
| One of these 6 Aliens has murdered one of the others. Each has made 4 statements about the following list of numbers.  **The murderer has made 3 errors. The victim has made 0 errors.**  **The other suspects have made 1 or 2 errors.**  **You have to clearly state which alien is the murderer, which alien is the victim and which other aliens are suspects.** | |
| **5, 8, 13, 16, 21, 38, 49,**  **52, 61, 64, 72** | |
| Steven says   * There are 5 odd numbers **T/F** * There are 2 square numbers **T/F** * There are 2 multiples of 7 **T/F** * The lowest prime number   in the list is 13 **T/F** | Sally says   * There are 3 primes **T/F** * The difference between the 1st two odd numbers in the list is 8 **T/F** * There are 6 even numbers **T/F** * There are 3 factors of 64 in the list **T/F** |
| Alf says   * 24 is in the list **T/F** * √169 is in the list **T/F** * There are no factors of 18 in the list **T/F** * The product of the 2 lowest odd numbers is 63 **T/F** | Marvin says   * There are 2 cubes in the list **T/F** * 26 is in the list **T/F** * √81 is in the   list **T/F**   * There are no multiples of 12 **T/F** |
| Pauline says   * There are 2 cubes in the list **T/F** * There are 2 multiples of 9 in the list **T/F** * The largest gap between numbers is 9 **T/F** * The answer to 25 is in the list **T/F** | ET says   * The answer to √121 is in the   list **T/F**   * There are 2 multiples of 13 in the list **T/F** * There are 4 square numbers **T/F** * There are 4 multiples of 8 **T/F** |
| **Where**  The murder was committed inside the space station.  But where exactly?  ***Please show your evidence to support your answers.*** | |
| It was in the escape pod if there are 3 prime numbers in the 20’s **T/F** | |
| It was in the sleeping quarters if there are 4 multiples of 30 between 100 and 200 **T/F** | |
| It was in the control room if there are 9 factors of 36 **T/F** | |
| It was in the lab if there are 6 square numbers between 50 and 150 **T/F** | |
|  | |
| **When.**  Calculate the time and date from these  Write the date ate time here | |
| The hour part of the time is the answer to | √16 x ( 42- √121) |
| The minute part of the time is the answer to | 33 |
| The day part of the date is | √(63 - 200) + cube root of 729 |
| The month part of the date is | The 4th root of 16 |
| The year part of the date is | (103x √4) + √289 |

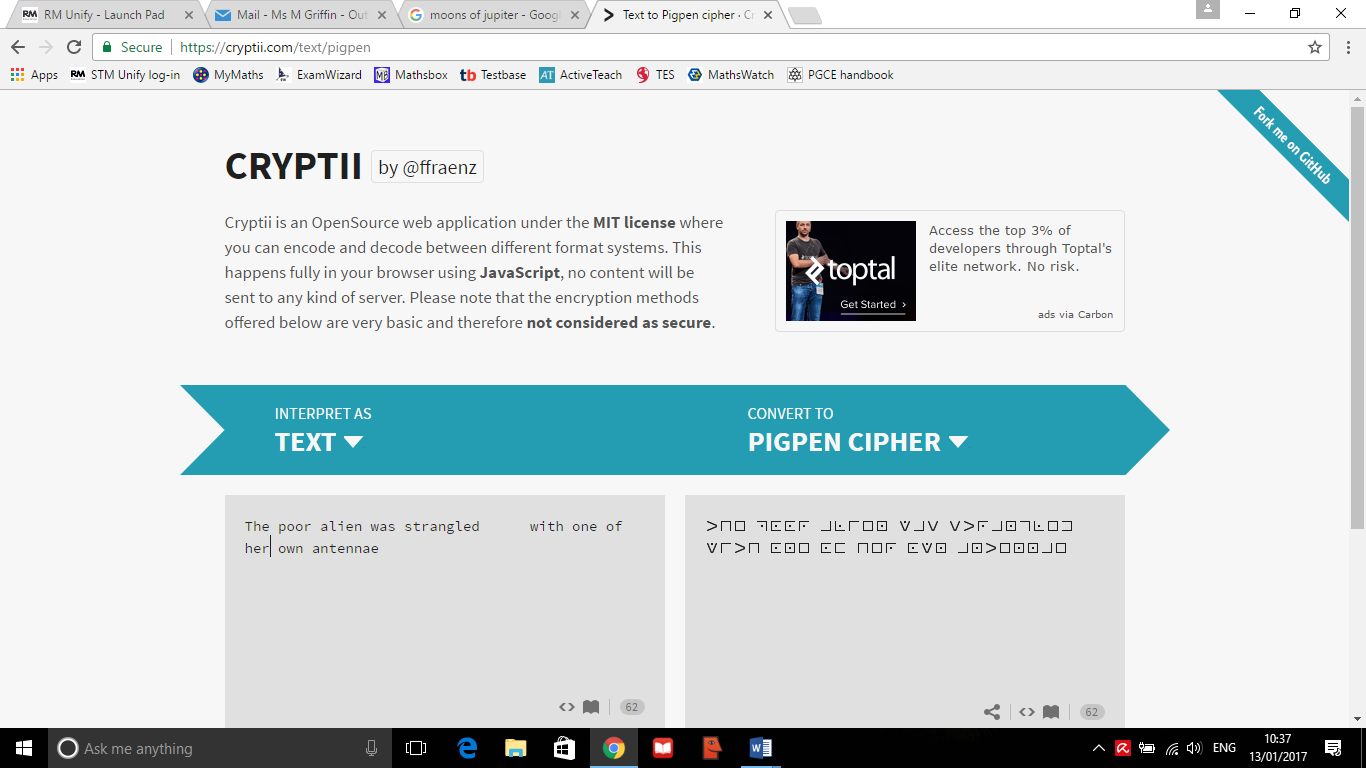
**Why**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **a** | | **b** | | | **c** | | | | **d** | | **e** | |
| 42 | | √100 | | | 12 + 13 | | | | 102 ÷ 4 | | 32 - √4 | |
| **f** | | **g** | | | **h** | | | | **i** | | **j** | |
| Next prime after 13 | | 1st prime no in the 20’s | | | 3 + 32 | | | | 5th prime number | | 2nd prime x 4th prime | |
| **k** | | **l** | | | **m** | | | | **n** | | **o** | |
| LCM of 2 & 7 | | 22 | | | √169 | | | | 110 | | 23 | |
| **p** | | **q** | | | **r** | | | | **s** | | **t** | |
| HCF of 30 & 45 | | 52 - 12 | | | Cube root of 125 | | | | √400 | | √9 | |
| **u** | | **v** | | | **w** | | | | **x** | | **y or z** | |
| √36 | | √81 | | | 42+12+12+12 | | | | 9th multiple of 2 | | 52 - √9 | |
|  | | | | | | | | | | | | |
| **12** | 7 | | 25 | 8 | | 7 | 20 | 1 | | 3 | 14 | 1 |
|  |  | |  |  | |  |  |  | |  |  |  |
| **8** | 19 | | 12 | 8 | | 19 | 3 | 8 | | 20 | 24 | 6 |
|  |  | |  |  | |  |  |  | |  |  |  |
| 16 | 5 | | 7 | 16 | | 1 | 6 | 13 | | 10 | 7 | 5 |
|  |  | |  |  | |  |  |  | |  |  |  |

**Murder weapon?**

Using the following pigpen cipher, decode the following message to discover the weapon used.





Decoded message reads:

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….

**Justice**

Crack the following code to discover what happened to the killer

**XX VIII V XI IX XII XII V XVIII XXIII I XIX**

**XIX V XIV XX V XIV III V IV XX XV C**

**XXV V I XVIII XIX XV XIV VII I XIV XXV XIII V IV V**

Bonus points for the team who knows what the last word in the code refers to. Write your thoughts below:

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………