

# Bob's Buttons!

**Table 1**

Group Size: 5  
Remainder

|   | 0  | 1  | 2  | 3  | 4  |
|---|----|----|----|----|----|
| 0 | 20 | 16 | 12 | 8  | 24 |
| 1 | 5  | 21 | 17 | 13 | 9  |
| 2 | 10 | 6  | 22 | 18 | 14 |
| 3 | 15 | 11 | 7  | 23 | 19 |

Group Size: 4  
Remainder

**Explanation of Patterns:**

- If you go diagonally right, the numbers go up by one.
- The first & third rows are all even numbers while the second & fourth rows are all odd.
- All of the columns (going down) go even, odd, even, odd.
- In both diagonals, every second number is odd.
- If you start at eight at the first row & go left the numbers go up by four. In the second row it starts at the five & skips onto the nine. Next, It starts at the six, going left, & then in the last row it starts at the seven, still adding four.

**Table 2**

Group Size: 4  
Remainder

|   | 0  | 1  | 2  | 3  |
|---|----|----|----|----|
| 0 | 12 | 9  | 18 | 15 |
| 1 | 4  | 13 | 10 | 19 |
| 2 | 8  | 5  | 14 | 11 |

Group Size: 3  
Remainder

**Explanation of Patterns:**

- If you go diagonally right, the numbers go up by one.
- In the rows, every second row is all odd numbers.
- In the columns, every second number is off.
- In both diagonals every second number is odd.
- In group size 3, remainder 0 minus the group size 4 remainder 1 is 3. If you minus all of the column 1 numbers from the column 2 numbers, they equal 3. You can also do this with the column 3 & 4 & the answer is still 3.

**Table 3**

Group Size: 6  
Remainder

|   | 0  | 1  | 2  | 3  | 4  | 5  |
|---|----|----|----|----|----|----|
| 0 | 24 | *  | 9  | *  | 16 | *  |
| 1 | *  | 25 | *  | 10 | *  | 17 |
| 2 | 6  | *  | 26 | *  | 11 | *  |
| 3 | *  | 7  | *  | 27 | *  | 12 |

Group Size: 4  
Remainder

\* = Not possible.

**Explanation of Patterns:**

- Every second right diagonal can't be done.
- If you go diagonally right, the numbers go up by one.
- The first & third rows are all even numbers while the second & fourth rows are all odd.
- In all of the second rows, all of the second numbers are odd.
- In every second column, all of the numbers are odd.

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Signed: