

# CALENDAR CAPERS

by Sophie. J

**My squares:**

**January:**

**14 15 16** sum of all 4 corners: **88**

**21 22 23** **(14+28+16+30)**

**28 29 30**

**February:**

**11 12 13** sum of all four corners: **76**

**18 19 20** **(11+25+13+27)**

**25 26 27**

**June:**

**9 10 11** sum of all four corners: **68**

**16 17 18** **(9+11+23+25)**

**23 24 25**

**What I've Noticed:**

**I've noticed that all the totals are even numbers.**

## Why?..

The four numbers in the corners have to be either ALL even or ALL odd. If ALL four numbers are odd, when they are added together, the result will be even! And if ALL 4 numbers are even (when added together), will be odd.

-part two- :

### Square One:

	63	66	69	
66				66
	14	15	16	
	21	22	23	
	28	29	30	
				= 45
				= 66
				= 87

### Square Two

	54	57	60	
57				57
	11	12	13	
	18	22	22	
	28	29	30	
				= 36
				= 57
				= 78

Sophie.J

### Square 3:

	48	51	54	
51	//	//	//	51
//	09	10	11	// = 30
	16	17	18	= 51
	23	24	25	= 72

### What I've noticed:

I have noticed two things. The first thing I have noticed is, for rows and columns, if the number that starts is even, then the total is always odd. And if the starting number is odd, the total will be even. For diagonals, if all three numbers are odd, the result will be odd – and same goes with even numbers-. Secondly, I have noticed, in each grid, the diagonals always equal the same. In the columns, there are jumps of +21 going down.

eg.

=45

=66

+21

=87

+21

**Sophie.J**

## Why?...

(rows+columns)

(diagonals were explained above)



In previous results, it states the jumps of 21 and three. So, since there is a row/column in between them, you would need to double the gap to prevent the days being consecutive.

## -Part 3- :

### Example Square 1:

<del>09</del>	<del>10</del>	11
<del>16</del>	17	<del>18</del>
23	<del>24</del>	<del>25</del>

■ =the last one

their total: 51

I've noticed that their total will ALWAYS be divisible by 3

### Example Square 2:

<del>11</del>	12	<del>13</del>
<del>18</del>	19	20
25	<del>26</del>	<del>27</del>

Why?...

their total: 57

Because it's a 3 by 3 grid.

Sophie.J

## **EXTENSION:**

1) For a 4 by 4 square, the columns, rows and diagonals always total an even number. This is because, you have 2 even numbers and 2 odd numbers. When 2 even numbers are added together, the result is always even. And when you add 2 odd numbers together, the result is always even.