

CALENDAR PATTERNS

September 2015

Mon	Tue	Wed	Thu	Fri	Sat	Sun
24	25	26	27	28	29	30
31	1 Sep	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	1 Oct	2	3	4

On a calendar put a box around four numbers.

Add the numbers in opposite corners.

For example $8+16$ and $9+15$.

What do you notice about the answers?

Put a box around another set of four numbers and try this again.

What happens and why?

Try multiplying – perhaps you could use a calculator to help.

What happens in other months?

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Use a 100 square and again put a box around four numbers.

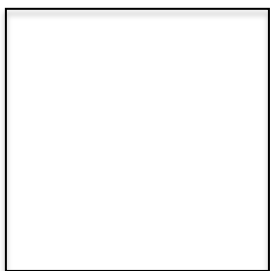
Add the numbers in opposite corners.

What do you notice about the answers?

Explain why this happens.

Try multiplying and explain what happens.

Help



In order to focus on which numbers you are dealing with at each moment you could use a frame exactly the right size to show just four numbers. Cut your frame from scrap paper.

Add the two pairs of numbers at opposite corners of the square. What do you notice about these two totals? Does the same sort of thing happen when you move your frame to shown four different numbers?

Extension

Work with a partner and discuss your discoveries. Suggest new things to try. For example, what happens if the square box is enlarged to include nine numbers, or a rectangular frame of six numbers? Test discoveries on other months.

What would happen if we lived somewhere where a week consisted of 6, 5, or just 4 days?