Calendars and Short Cuts

You need: a calculator							_
 Sarah sees a short cut for adding up the 		MØN		EM			SAT
4 numbers in the blue box.	SUN						341
a. Show how Sarah's short cut might work.		1	2	3	4	5	6
b. Use this short cut to add up each set of	7	8	9	10	11	12	13
4 numbers in the red boxes below.	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	31			
		ii.				,	
	FRI SAT		SUN	ΜΩΝ ΤΙ		THU FR	I SAT
	5 6					1 2	
	12 13		4	5 6	5 7	8 9	
	19 20	1	11	12 1	3 14	15 16	5 17
21 22 23 24 25	26 27					22 23	
28 29 30 31			25	26 2	7 28	29 30	0 31
		iv.			BRU/	_	
SUN MON TUE WED THU			SUN	MON TL	IE WED	THU FR	
1 2 3 6 7 8 9 10	4 5 11 12		7	4 5		78	2
	18 19	-	3 10		5 6 2 13		5 16
						21 22	
27 28 29 30 31				25 2		28	

	DECEMBER										
SUN	MON	TUE	WED	тни	FRI	SAT					
	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								

- **a.** Find two different short cuts for adding up the 9 numbers in the green box.
- **b.** Anna's short cut for adding up the numbers in the green box is $9 \times 11 = 99$. Explain how this works.
- **c.** Use Anna's short cut to add up each set of 9 numbers in the yellow boxes.

i.			DEC	EM	BER	2						
	SUN	SUN MON TUE WED THU FRI SAT										
		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								

ACTIVITY

ii.			J	UL	(
	SUN	SUN MON TUE WED THU FRI									
					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				

iii.			FEB	RU/	٩RY	,	
	SUN	MØN	TUE	WED	тни	FRI	SAT
						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		

iv.			M	ARC	CH		
	SUN	MON	TUE	WED	тни	FRI	SAT
			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		

3. Angus's short cut for adding up the 16 numbers in the purple box in this calendar is: 1 + 2524

$$\frac{1+25}{2} \times 16 = \frac{26}{2} \times 16$$
$$= 13 \times 16$$
$$= 208$$

- **a.** Check his answer by using a calculator to add up the 16 numbers.
- **b.** Explain how Angus's short cut works.
- c. Use the short cut to add up each set of numbers in the purple boxes below.

		FEB	RU/	٩RY	, ,	
UN	MON	TUE	WED	тни	FRI	SAT
					1	2
3	4	5	6	7	8	9
0	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

		DEC	EM	BER	2						
SUN	MON TUE WED THU FRI SA										
	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								

iii.			M	ARC	CH		
	SUN	MON	TUE	WED	тни	FRI	SAT
			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		

- 4. Jacob uses the short cut $\frac{1+45}{2} \times 25$ to add up the numbers in the pink box on this hundreds board.
 - a. Complete Jacob's calculation. Check your answer by using a calculator to add up the numbers.
 - **b.** Explain how Jacob's short cut works.
 - c. Use a short cut to add up each set of numbers in the orange boxes below.

i.	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

ii.

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

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

11	12	13	14
21	22	23	24
31	32	33	34
41	42	43	44
51	52	53	54

1 2 3 4

5 6 7 8 9 10

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

15 16 17 18 19 20 24 25 26 27 28 29 30 35 36 37 38 39 40

45 46 47 48 49 50

55 56 57 58 59 60

iii.