GRADE 6 - GRADE 7 - GRADE 8

MY CHRISTMAS NOTEBOOK

ARE YOU READY ?

In this book, you can find the following 3 games :

- cross grids of numbers
- magic squares
- who is this ?

It's your turn to play, open this book to start !

GAME #1 : CROSS GRIDS

RULES : Complete the grid respecting the definitions of each row and column.

Exercise #1 :

EASY

HORIZONTAL

① The number before 20
② The number following 909
③ Number having 8 tens
④ Number having the same digit in the hundreds and in the units

VERTICAL

A. 20 + 15
B. The number before 100
C. 100 + 50 + 30 + 5
D. (50 x 2) + 5

	A	B	C	D
①				
②				
③				
④				

Exercise #2 :

EASY

HORIZONTAL

① ② + 33
② Triple of 1033
③ Multiple of 9
④ ② + 101

VERTICAL

A. Number with 4 identical digits
B. Smallest 2 digit number
C. 4001 - 11
D. C - 1000

	A	B	C	D
①				
②				
③				
④				

Exercise #3 : **EASY**

HORIZONTAL

① Between 20 and 30
② 4 digits follow each other
③ Prime number less than 60
④ ② + 303

VERTICAL

A. The sum of digits is 10
B. Multiple of 6 and 9
C. Three digits are identical
D. The number before 6700

	A	B	C	D
①				
②				
③				
④				

Exercise #4 :

MEDIUM

HORIZONTAL

① The number before 14500
② 100 x 100
③ C + 1080
④ ② - 100
⑤ The number following 89999

VERTICAL

A. ① - 3000
B. 40200 - 10
C. The number following 40799
D. ⑤ + 800
E. 30 x 30

	A	B	C	D	E
①					
②					
③					
④					
⑤					

Exercise #5 :

MEDIUM

HORIZONTAL

① 4 digits follow each other
② ⑤ + 4400
③ 2 identical digits / Multiple of 9 and 5
④ The number before 99900
⑤ 60 x 100

VERTICAL

A. Between 1390 and 1400
B. 30400 - 10
C. Multiple of 11 / The number following 79
D. 51000 - 10
E. ⑤ + 9

	A	B	C	D	E
①					
②					
③					
④					
⑤					

Exercise #6 :

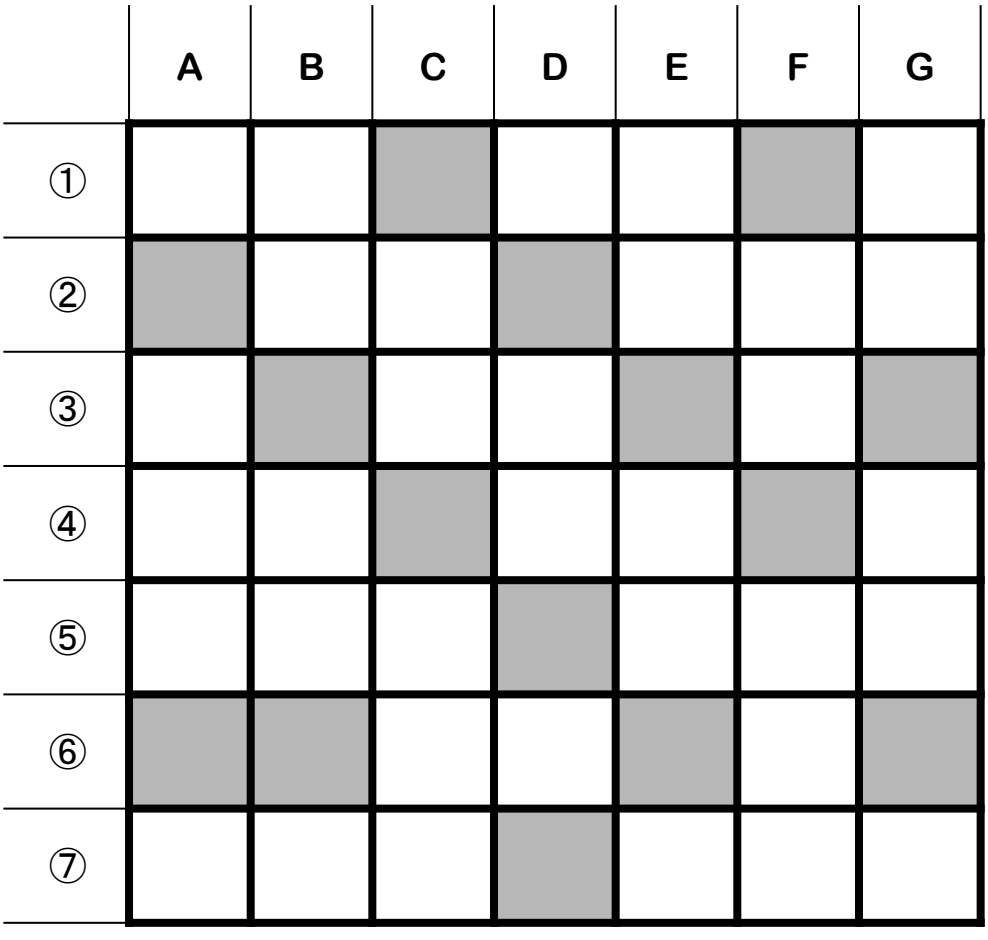
HARD

HORIZONTAL

① The perimeter of a square of side 3 / 100 : 4
② 2 x 7 x 5 / The number of minutes between 9:25 p.m and 8 a.m
③ 180 : 4
④ 9 x 7 / The minimum number of sachets of 4 cakes that must be purchased so that each children has a cake. In this school, there are 202 children.
⑤ 83 ten + 21 ones / 5 x 43
⑥ (10 x 10) - (8 x 8)
⑦ 1000 : 8 / (5 x 75) + (5 x 35)

VERTICAL

A. The number of hours in a week
B. 41 - 14 / 5 ones and 3 ten
C. The last 2 digits in 1504 / 90 + 45
D. 440 : 8
E. 14 + 14 + 14 + 14 / The number of edges of a cube
F. 2^5 / 100 + 15
G. The number of quarter-hours in 3 hours 45 minutes / The number of small squares of 2 cm side in a square of 10 cm side.



GAME #2 : MAGIC SQUARES

RULES : The goal is to complete all the squares of the grid in such a way that the sum of the squares of the same row, of the same column and of the same diagonal is equal to the same number (constant).

Complete the magic square with 9 numbers, the constant is 15.

	9	2
	5	

Complete the magic square with 16 numbers, the constant is 34.

15			6
4		16	
	11	2	
	8		12

Complete the magic square with 25 numbers, the constant is 65.

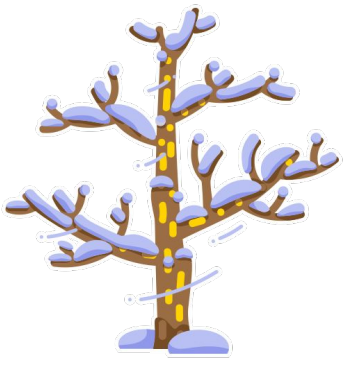
17		1	8	15
	5	7	14	
4	6	13		22
10			21	
	18			

Complete the magic square with 36 numbers, the constant is 111.

9		18	1	36	
32		23	7		31
	20		27	11	13
6	19	34	35	12	
29	4			16	30
21	28	2			10

Complete the magic square with 49 numbers, the constant is 175.

38		14	44	32		1
48	29		5		23	
	39	27	8		33	21
12	49	30		6	36	24
15		40	28	9	46	
25	13	43	31	19		37
35	16	4		22	10	47



GAME #3 : WHO IS THIS ?

RULES : Plot this points in the coordinate plane.

A_1	(2 ; -6)
A_2	(7 ; -5)
A_3	(12 ; -6)
A_4	(13 ; -9)
A_5	(12 ; -12)
A_6	(9 ; -14)
A_7	(6 ; -15)
A_8	(3 ; -14)
A_9	(1 ; -12)
A_{10}	(1 ; -8)

B_1	(7 : -18)
B_2	(3 ; -20)
B_3	(4 : -18)

C_1	(-2 ; -14)
C_2	(-4 ; -15)
C_3	(-5 ; -18)
C_4	(-7 ; -16)
C_5	(-6 ; -13)
C_6	(-3 ; -10)

D_1	(-5 ; -17)
D_2	(-3 ; -19)
D_3	(0 ; -20)

E_1	(-2 ; -11)
E_2	(0 ; -10)
E_3	(0: -7)
E_4	(-1 ; -6)
E_5	(-2 ; -6)
E_6	(-3 ; -7)

F_1	(-6 ; -6)
F_2	(-7 ; -4)
F_3	(-9 ; -3)
F_4	(-12 ; -4)
F_5	(-13 ; -6)
F_6	(-12 ; -8)
F_7	(-10 ; -10)
F_8	(-8 ; -10)
F_9	(-8 ; -12)
F_{10}	(-7 ; -14)

G_1	(-8 ; -6)
G_2	(-9 ; -5)
G_3	(-10 ; -5)
G_4	(-11 ; -6)

H_1	(-10 ; -6)
H_2	(-10 ; -7)
H_3	(-9 ; -8)

I_1	(-1 ; -4)
I_2	(0 ; -2)
I_3	(1 ; -1)
I_4	(2 ; -2)
I_5	(2 ; -4)
I_6	(1 : -6)

J_1	(3 ; -1)
J_2	(4 ; -2)
J_3	(4 ; -4)
J_4	(3 ; -6)

K_1	(-8; 0)
K_2	(-8 ; -3)
K_3	(-4 ; 0)
K_4	(2 ; 2)
K_5	(4 ; 2)
K_6	(2 ; 4)
K_7	(0 ; 5)
K_8	(-3 ; 5)
K_9	(-5 ; 4)

L_1	(-6 ; 2)
L_2	(-5 ; 7)
L_3	(-6 ; 9)
L_4	(-7 ; 12)
L_5	(-8 ; 15)
L_6	(-9 ; 18)
L_7	(-10 ; 23)
L_8	(-10 ; 24)
L_9	(-11 ; 24)
L_{10}	(-12 ; 21)
L_{11}	(-12 ; 19)
L_{12}	(-11 ; 17)
L_{13}	(-12 ; 17)
L_{14}	(-12 ; 13)
L_{15}	(-10 ; 9)
L_{16}	(-11 ; 9)
L_{17}	(-12 ; 8)
L_{18}	(-11 ; 6)
L_{19}	(-9 ; 4)

M_1	(-1 ; 5)
M_2	(-1 ; 7)
M_3	(-2 ; 9)
M_4	(-4 ; 12)
M_5	(-6 ; 15)
M_6	(-6 ; 17)
M_7	(-6 ; 18)
M_8	(-7 ; 18)
M_9	(-8 ; 17)

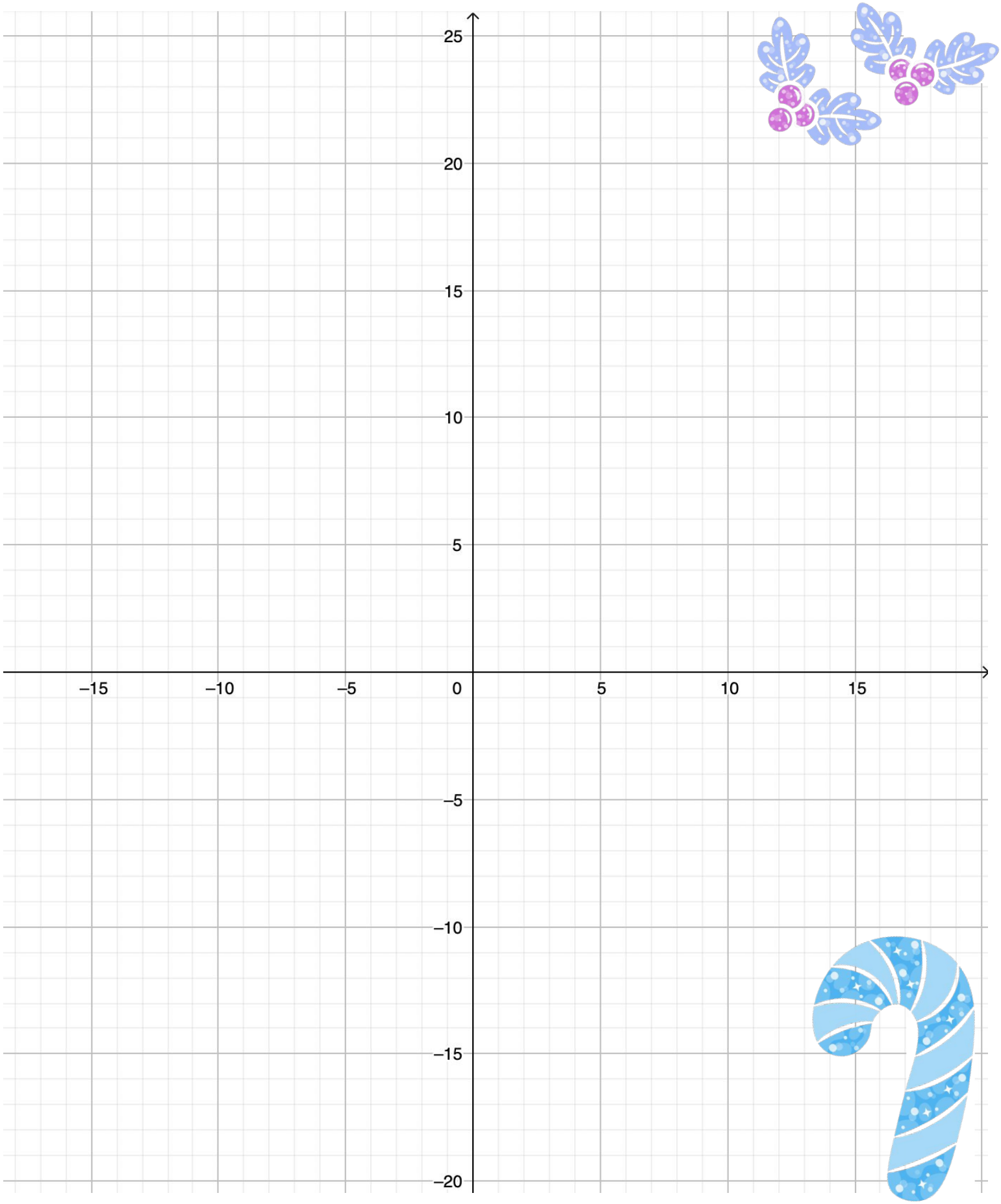
N_1	(-4 ; -6)
N_2	(-5 ; -3)
N_3	(-3 ; -5)
N_4	(-3 ; -3)

O_1	(-12 ; -12)
O_2	(-9 ; -15)
O_3	(-10 ; -12)
O_4	(-8 ; -14)

RULES : Connect this points in the coordinate plane.

1) Connect the points A_1 - A_2 - A_3 - A_4 - A_5 - A_6 - A_7 - A_8 - A_9 - A_{10}.
2) Connect the points A_6 - B_1 - B_2 - B_3 - A_8.
3) Connect the points A_8 - C_1 - C_2 - C_3 - C_4 - C_5 - C_6.
4) Connect the points D_1 - D_2 - D_3 - B_3.
5) Connect the points C_6 - E_1 - E_2 - A_{10} - E_3 - E_4 - E_5 - E_6.
6) Connect the points F_1 - F_2 - F_3 - F_4 - F_5 - F_6 - F_7 - F_8 - F_9 - F_{10}.
7) Connect the points G_1 - G_2 - G_3 - G_4.
8) Connect the points G_2 - H_1 - H_2 - H_3.
9) Connect the points E_4 - I_1 - I_2 - I_3 - I_4 - I_5 - I_6 - E_3.
10) Connect the points A_1 - J_1 - J_2 - J_3 - J_4.
11) Connect the points K_1 - K_2 - K_3 - K_4 - K_5 - K_6 - K_7 - K_8 - K_9.
12) Connect the points L_1 - K_9 - L_2 - L_3 - L_4 - L_5 - L_6 - L_7 - L_8 - L_9 - L_{10} - L_{11} - L_{12} - L_{13} - L_{14} - L_{15} - L_{16} - L_{17} - L_{18} - L_{19} - K_1 - L_1.
13) Connect the points M_1 - M_2 - M_3 - M_4 - M_5 - M_6 - M_7 - M_8 - M_9 - L_5.
14) Connect the points F_2 - N_1 - N_2 - N_3 - N_4 - K_3.
15) Connect the points F_6 - O_1 - O_2 - O_3 - F_{10}.

RULES : Plot the points in this coordinate plane.



WHAT CHARACTER DID YOU FIND ? _____

ANSWERS - GAME #1

Exercise #1

	A	B	C	D
①	1	9		1
②		9	1	0
③	3		8	5
④	5	0 1 2 3 4 5 6 7 8 9	5	

Exercise #2

	A	B	C	D
①	3	1	3	2
②	3	0	9	9
③	3		9	9
④	3	2	0	0

Exercise #3

	A	B	C	D
①	2	5		6
②	3	4	5	6
③	2		5	9
④	3	7	5	9

ANSWERS - GAME #1

Exercise #4

	A	B	C	D	E
①	1	4	4	9	9
②	1	0	0	0	0
③	4	1	8	8	0
④	9	9	0	0	
⑤	9	0	0	0	0

Exercise #5

	A	B	C	D	E
①		3	4	5	6
②	1	0	4	0	0
③	3	3		9	0
④	9	9	8	9	9
⑤	6	0	0	0	

Exercise #6

	A	B	C	D	E	F	G
①	1	2		2	5		1
②		7	0		6	3	5
③	1		4	5		2	
④	6	3		5	1		2
⑤	8	5	1		2	1	5
⑥			3	6		1	
⑦	1	2	5		5	5	0

ANSWERS - GAME #2

Exercise #1

4	9	2
3	5	7
8	1	6

Exercise #2

15	10	3	6
4	5	16	9
14	11	2	7
1	8	13	12

Exercise #3

17	24	1	8	15
23	5	7	14	16
4	6	13	20	22
10	12	19	21	3
11	18	25	2	9

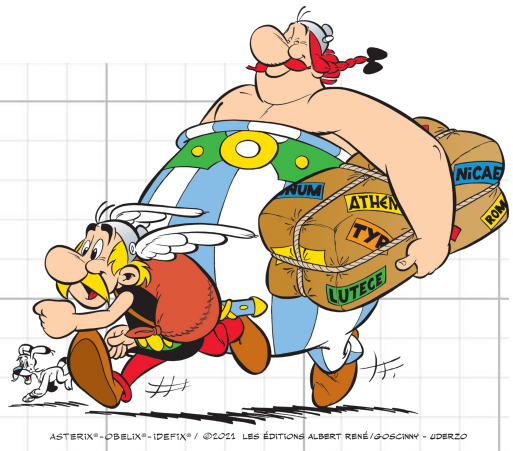
Exercise #4

9	25	18	1	36	22
32	15	23	7	3	31
14	20	26	27	11	13
6	19	34	35	12	5
29	4	8	24	16	30
21	28	2	17	33	10

Exercise #5

38	26	14	44	32	20	1
48	29	17	5	42	23	11
2	39	27	8	45	33	21
12	49	30	18	6	36	24
15	3	40	28	9	46	34
25	13	43	31	19	7	37
35	16	4	41	22	10	47

ANSWERS - GAME #3



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MERRY CHRISTMAS & HAPPY NEW YEAR

WHAT CHARACTER DID YOU FIND ? This is a gaul (a french character).