④ Mercredi $7 \times 47 = 131$

4712
4721
4271 → trop petit.

---

7 x x x
4 x x x
2 x x x
) $9 = 4+4+1$ → 74 x x
41 x x
24 x x (impair) → impossible.

Mardi 7 x x x
4 x x x
1 x x x
) → 17 x x
47 x x
74 x x
138 x x
183 = → imp.

(pair) 71 x x
47 x x
21 x x

7124
4712 (pair)
2147
13383

71 x x
41 x x
27 x x

---

⑧

Lundi : 1

Mardi : 6

Mercredi : $6 \times 6 - 1 = 35$

Jeudi : $35 \times 6 = 210$

V : $35 \times 6^2 = 1260$

S : $35 \times 6^3 = 7560$

D : $35 \times 6^4 = 45360$

---

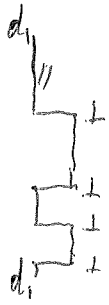
⑨

1
3 5
2 6 4

2
5 6
3 7 4

2 sol° :

(10) Nombre pair de 1



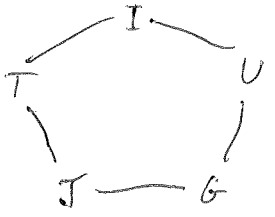
0 → 1
2 → $\frac{6\times5}{2} = 15$
4 → $\frac{6\times5}{2} = 15$
6 → 1

) 32

---

(11) M : couleur unique O : coul. un.
H : " " L : "
~~I : T ? V ?~~ A : "
) 5

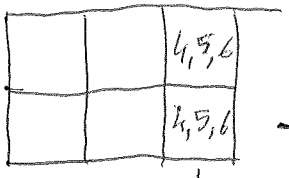
Compatibilités : I et T, I et V
G et V, G et J
T et J



→ 3 couleurs
+ 5 = 8 couleurs

---

(12)



→ 1{1,3,5} + 2{2,4,6}

↓ 5 et 6

4 + {2,3} ←

4		5
		6

ou

1/3		6
2/4	2/4	5

impossible

↓ 1

ou

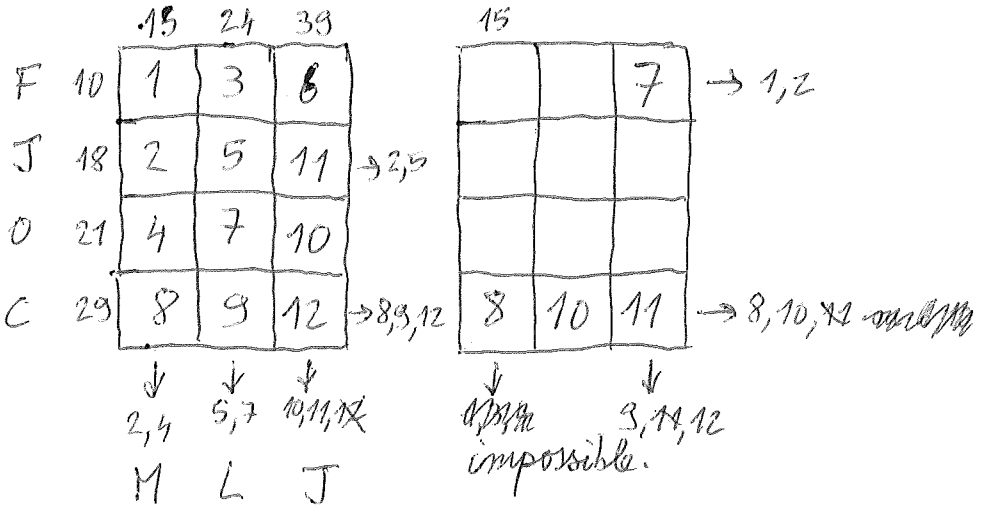
3	4	5
1	2	6

→ 2 + {1,3}

(13) $12+11+10+9=42$ Julien : minimum 6 par objet

Chez Evan-6 : $1+2+7=10$ ou $1+3+6=10$

~~Julien : $7+10+11+12=?$~~



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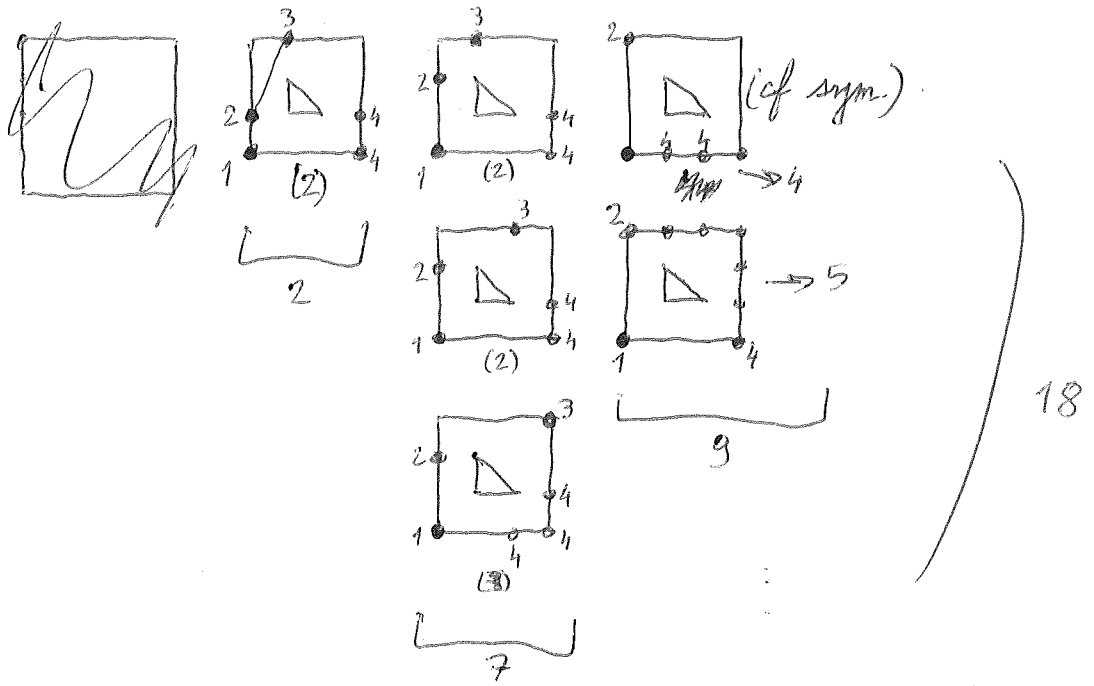
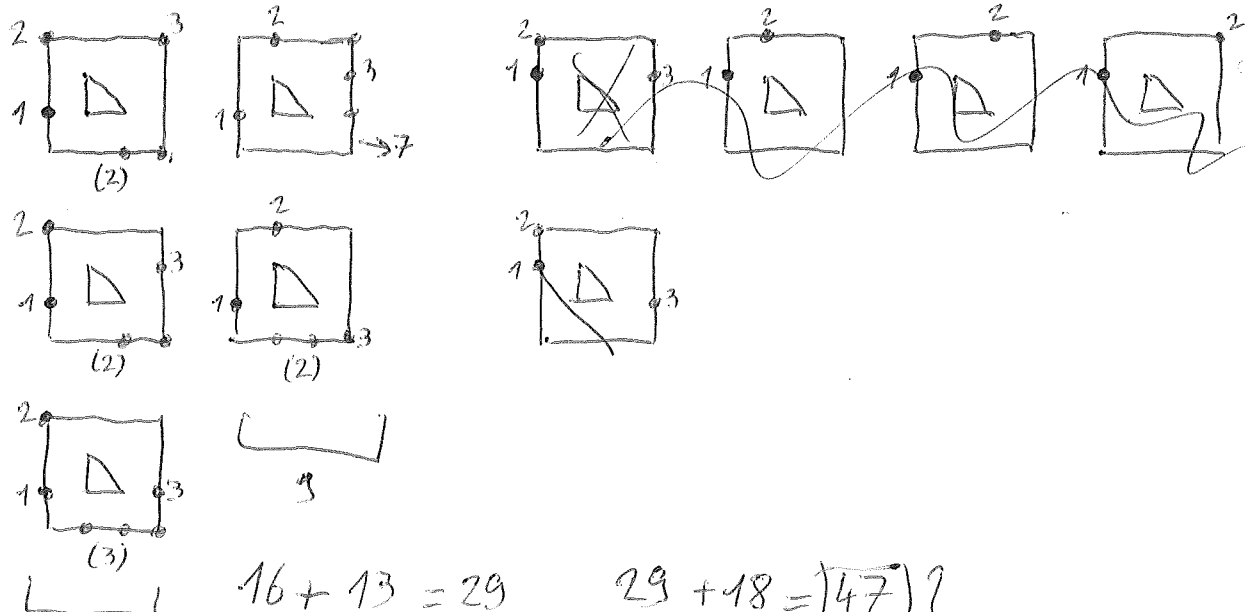
(14)





$16+13=29$ (sym)

$29+18=\boxed{47}$?

(15)

a, b, c

$38 - 29 = 9$

$41 - 38 = 3$

$29, 38, 41 \equiv 2 \ [3]$

0, 1, 2
1, 2, 2

Si $29 = a + b + c$

$38 = b + b + c$ ou $a + c + c$

$41 = b + c + c$

$c - a = 12$

ou $a,\ a+3,\ a+12$ → $a \in \frac{41-15}{2} = 13$

$a,\ a+9,\ a+12$ → $a \in \frac{41-29}{2}$ imposs. (div 3)

13 ; 16 ; 25

10 ; 19 ; 22

$29 = a + a + b$?

$a > 10$ $\quad a \leq 9$

$\leq \quad c \geq 14$

$9+9+11$ $\quad 10+10+9$

$8+8+13$ $\quad 11+11+7$

$7+7+15$ et $12+12+5$

$6+6+17$ $\quad 13+13+3$

$5+5+19$

$4+4+21$

$$\begin{cases} a+a+b = 29 \\ a+b+c = 38 \\ b+b+c = 41 \end{cases}$$

$a = 9$

$b - a = 3$

$$\begin{cases} a+a+b = 29 \\ a+b+b = 38 \\ b+b+c = 41 \end{cases}$$

$$\begin{cases} a+a+b = 29 \\ a+a+c = 38 \end{cases}$$

(16)

a b c a+b pair.

~~somme ≠ 10~~ ou a≠0, c≠5

~~1 8 0~~

1 1 0
1 1 1
1 1 2

1 2 0

~~1 B 0~~

1 3 2 ~~1 4 0~~ 1 5 0
1 3 3 1 5 2
~~1 3 4~~

1 6 0

1 7 0

2 0 0 2 2 0 2 4 0 ~~3 0~~
2 0 1 2 2 2 2 6 0 3 1 0 3 7 0
2 2 4 2 8 0 3 3 0 ~~3 7~~
2 2 5 3 5 0

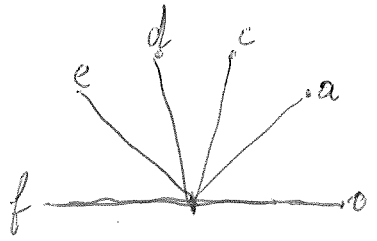
4 0 0

4 2 0 4 8 0

4 4 0
4 4 1 5 1 0
5 1 1
4 6 0 5 1 2
5 1 3

6 0 0

(17)



$b = a'$

$$\cos(2x) = 2\cos^2 x - 1 = 2 \times \frac{6+2\sqrt{5}}{16} - 1 = \frac{3+\sqrt{5}}{4} - 1 = \frac{\sqrt{5}-1}{4}$$

$$(1+\sqrt{5})(a+a') + (\sqrt{5}-1)(c+c') - 4f = 0$$
$$-e-e' \qquad -d-d'$$

$$a + a' + d + d' - 4f = 0$$
$$-e-e'-c-c'$$

(18)