

⑦ ~~Moum~~ $3 \times 47 = 141$

4712

4721

4271 \rightarrow trop petit.

7xxx

4xxx

2xxx

$9 = 4 + 4 + 1$

\rightarrow

74xx

41xx

24xx

(impair)

\rightarrow impossible.

~~888~~ 7xxx

4xxx

1xxx

\rightarrow

17xx

47xx

74xx

138xx

$183 =$

\rightarrow imp.

(pair)

71xx

47xx

21xx

\uparrow

7124

4712

2147

13583

(pair)

71xx

41xx

27xx

⑧

Lundi: 1

Mardi: 6

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

Jeudi: $35 \times 6 =$ ~~210~~ 210

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

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

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

⑨

~~377~~

1

3 5

2 6 4

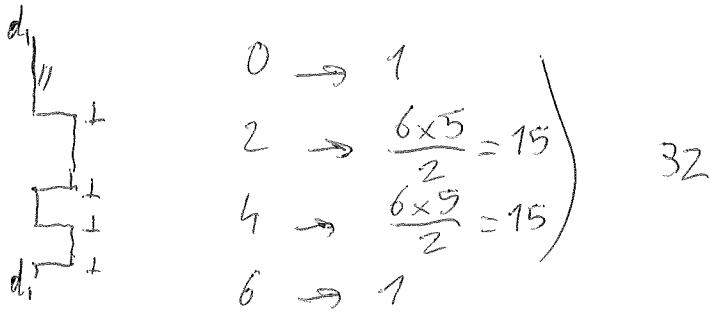
2

5 6

3 7 4

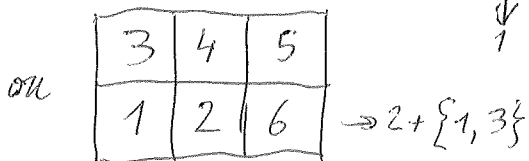
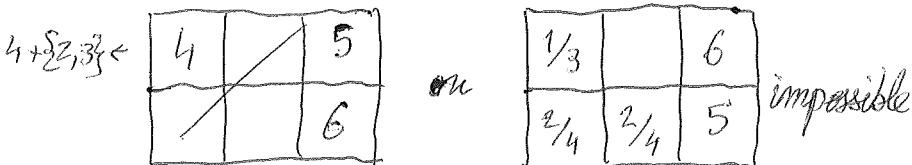
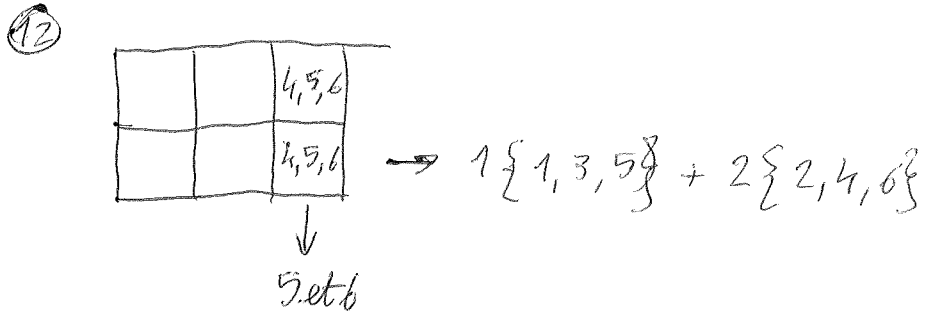
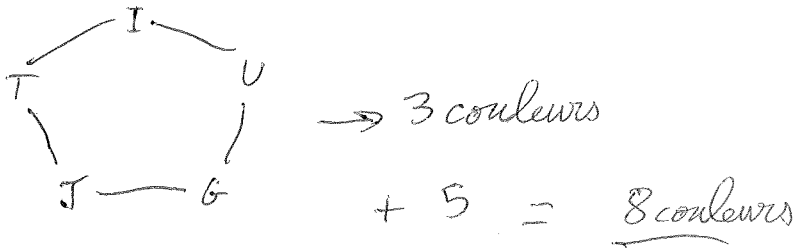
2 sol^o :

10) Nombre pair de 1



11) M: couleur unique O: coal. un.
 H: " " L: " "
~~I: " " A: " "~~ } 5

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



13

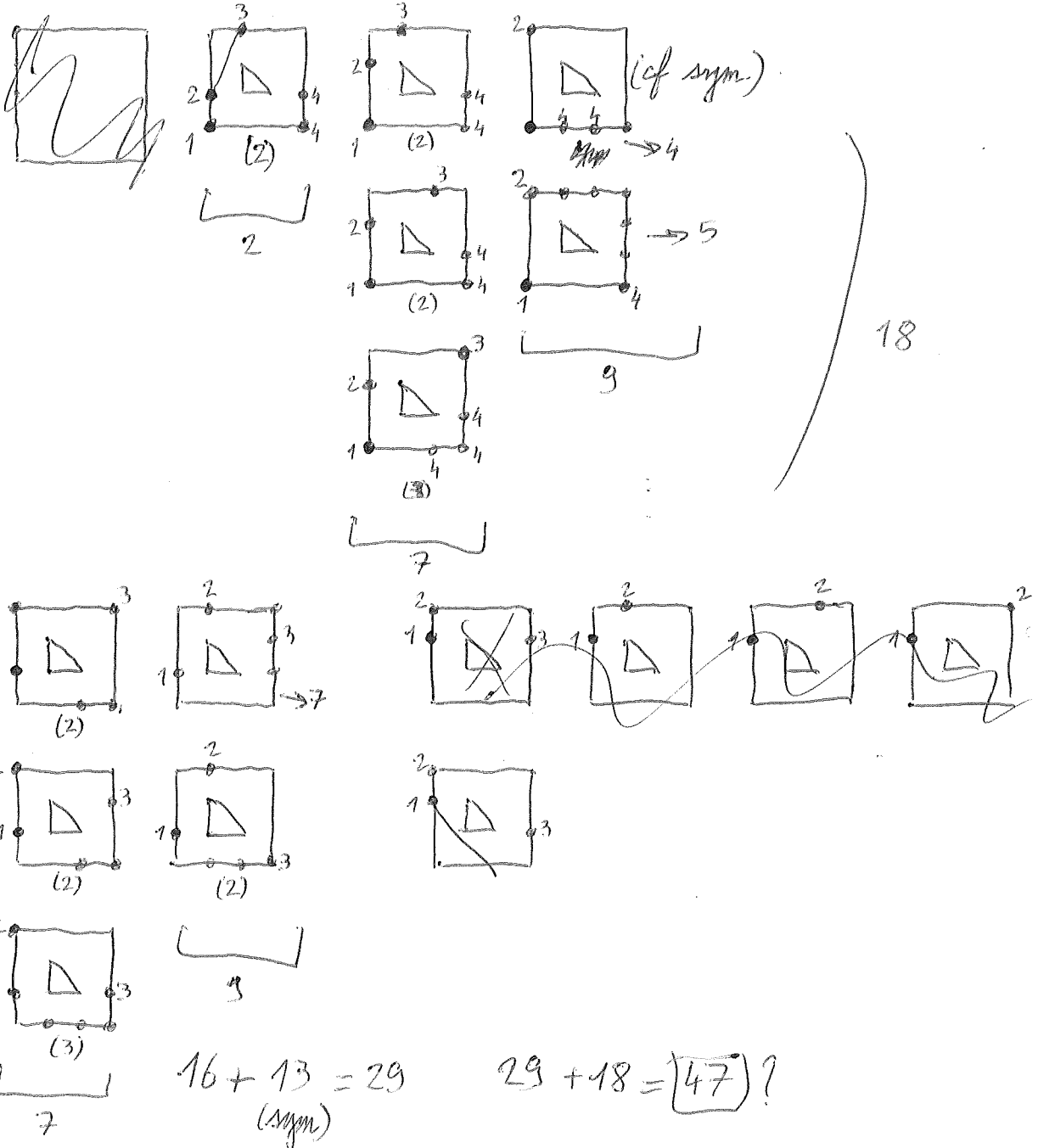
$12+11+10+8=42$ Julien: minimum 6 par objet

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

Julien: $7+10+11+12=40$

		15	24	38		15		
F	10	1	3	8			7 → 1,2	
J	18	2	5	11 → 2,5				
O	21	4	7	10				
C	29	8	9	12 → 8,9,12		8	10	11 → 8,10,11 impossible
		↓	↓	↓		↓	↓	
		2,4	5,7	10,11,12		impossible	3,11,12	
		M	L	J				

14



15

a, b, c

$$38 - 29 = 9$$

$$41 - 38 = 3$$

$$29, 38, 41 \equiv 2 \pmod{3}$$

$$\left. \begin{array}{l} 0, 1, 2 \\ 1, 2, 2 \end{array} \right\} \text{ mod 3}$$

$$\text{Si } 29 = a + b + c$$

$$38 = b + b + c \text{ ou } a + c + c$$

$$41 = b + c + c$$

$$c - a = 12$$

$$\begin{array}{l} a, a+3, a+12 \\ \text{ou} \\ a, a+9, a+12 \end{array} \rightarrow \begin{array}{l} a = \frac{41-15}{2} = 13 \\ a = \frac{41-20}{2} = 10 \end{array}$$

$$\begin{array}{l} 13, 16, 25 \\ 10, 19, 22 \end{array}$$

impars. (div 3)

$$29 = a + a + b?$$

$$\begin{array}{l} a > 10 \\ a \leq 9 \end{array}$$

$$c \geq 14$$

$$9 + 9 + 11$$

$$10 + 10 + 9$$

$$8 + 8 + 13$$

$$11 + 11 + 7$$

$$7 + 7 + 15$$

$$\text{et } 12 + 12 + 5$$

$$6 + 6 + 17$$

$$13 + 13 + 3$$

$$5 + 5 + 19$$

$$4 + 4 + 21$$

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

$$\begin{array}{l} a - a = 9 \\ b - b = 3 \end{array}$$

0.3.2.1

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

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

(16)

abc

a+b pair.

110

summe # 10? ou a#0, c#5

111

~~180~~
~~180~~

1

~~180~~

110
111
112

120

~~180~~

~~180~~

132

~~140~~ 150

133

~~134~~

152

160

170

200

220

240

~~240~~

201

222

260

310

370

224

225

280

330

~~37~~

400

350

~~350~~

420

480

440

441

510

511

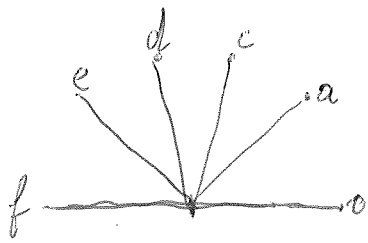
460

512

513

600

(17)



$$b = a'$$

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

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

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

$$-e - e' - c - c'$$

(18)

