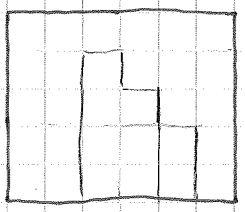
(7) ~~20 - 7 = 13~~ $21 - 7 = \boxed{14}$

(8) R
C + J
C + P
$3 \times 4 = \boxed{12}$

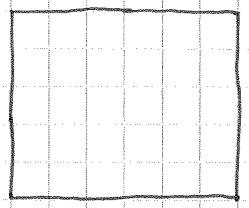
(9) 50 g fruit + 50 g pur sucre
↳ 10 g sucre → 20 %

(10) ~~30~~ $3 + 4 + \dots + 9 = 42 \Rightarrow -12$

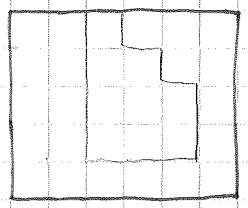
$12 = 3 + 4 + 5 = 5 + 7 = 4 + 8 = 3 + 9$



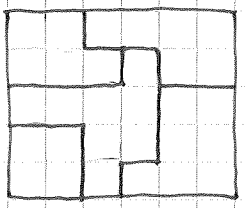
6, 7, 8, 9 imp.



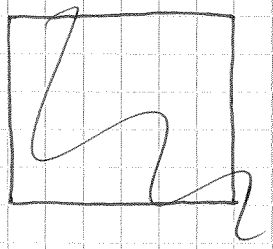
3, 4, 6, 8, 9 imp.



3, 5, 6, 7, 9 imp.



4, 5, 6, 7, 8



(11) 3 art. : $T \times 0{,}7 = 168$

$T = 240$

$(240 + x) \times 0{,}6 = 168$

$240 + x = 280 \rightarrow \boxed{x = 40}$

(12)

$$\overline{ab} = 16 \times 17 \times x^2$$

$$x^2 = \frac{1}{4} \rightarrow x = \boxed{0,5}$$

(13) $\overline{LYJM} + \overline{JM} = \overline{JMLY}$

$x = \overline{LY00}$ $\quad y = \overline{JM}$

$100x + 2y = 100y + x$

$99x = 98y$

$x = 98$, $y = 99$ $\quad CI = 49$

$49 + 49 = 98$

$4999 \times 2 = 9998$ $\quad CIJM = \boxed{4999}$

(14) $n = k^2$

- Si $n \equiv 1\ [10]$: $n \equiv 1\ [4]$ imp.
- Si $n \equiv 1\ [2]$: n

$n \equiv 1\ [8]$ → imp.

→ n pair. → $n \equiv 0\ [4]$.

$20 \equiv 0\ [4]$. → $n \equiv 4$ ou $8\ [10]$.

imp.

$k \equiv 2$ ou $8\ [10]$.

3 sol°

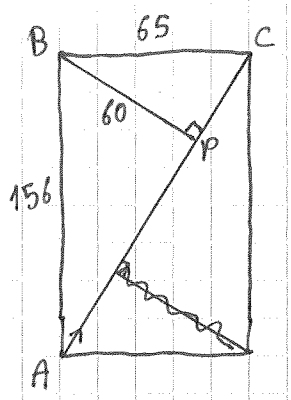
$\begin{bmatrix} 4624 \\ 6084 \\ 8464 \end{bmatrix}$

12	~~144~~	~~18~~	
22	~~484~~	~~28~~	
32	~~1024~~	38	~~1444~~
42	~~1764~~	48	~~2304~~
52	~~2704~~	58	~~3364~~
62	~~3844~~	68	4624
72	~~5184~~	78	6084
82	~~6724~~	88	~~7744~~
92	8464	98	~~9604~~

$$\begin{array}{r} 289 \times 16 = \\ 16 \\ \hline 1734 \\ 289 \\ \hline 4624 \end{array}$$

60 6084
1521
169

(15)



~~Bon 1/2 matricule~~

~~AB = 65~~

~~AB = 156~~

~~AB = 65~~

$AB = 156 \qquad BC = 65$

$AC = \sqrt{156^2 + 65^2} = \sqrt{28561} = 169$

$BP = \dfrac{156 \times 65}{\sqrt{28561}} = 12 \times 5 = 60$

```
  1 5 6
  1 5 6
-------
2 4 3 3 6
    4 2 2 5
-------
2 8 5 6 1
```

```
    6 5
    6 5
-------
4 2 2 5
```

~~$AP = \sqrt{156^2 - 28561}$~~

$AP = \sqrt{156^2 - 60^2} = \sqrt{20736}$

$= 6 \times 3 \times 8 = 144$

```
2'85'61 | 169
185     |
-156    |  26      329
 2961   |   6        9
        | ----    ----
        | 156     2961
```

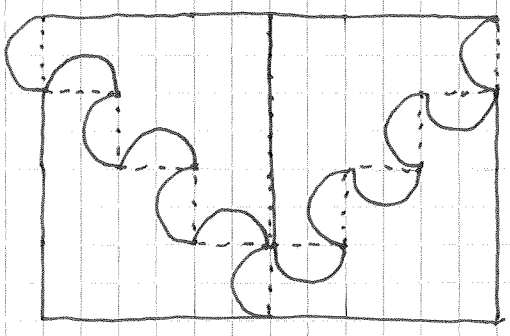
```
  24336
- 3600
-------
20736 /9 = 2304 /4 = 576 /9 = 64
```

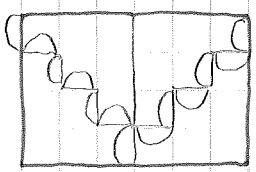
Mathias: AP : 144 dm à 50 cm/s

Mathilde: BP : 60 dm

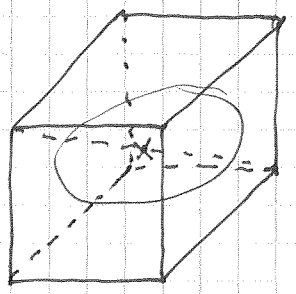
$$50 \times \frac{60}{144} = \frac{25 \times 5}{6} = \frac{125}{6} \simeq 20_{1/4} \quad \frac{126}{6} = \boxed{21}$$

(16)





(17)



$$\begin{cases} x^2+y^2=R^2, & z=0 \\ x+y+z=k \end{cases}$$

$x=y$

$$\begin{cases} 2x^2=R^2 \\ 2x+z=k \end{cases} \qquad k=2\frac{R}{\sqrt{2}}=R\sqrt{2}$$

$x+y+z=R\sqrt{2}$

$x=y=z= \longrightarrow \frac{R\sqrt{2}}{3}$

dist au centre : $\left(\frac{2R^2}{9}\times 3\right)^{1/2}=\sqrt{\frac{2}{3}}R$

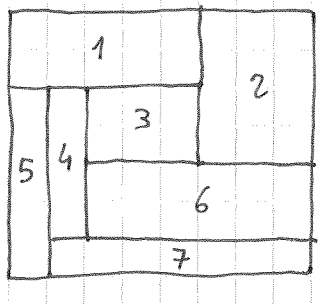
dist : $2\sqrt{\frac{2}{3}}R=\frac{2}{3}\sqrt{6}R=\frac{10}{3}\sqrt{6}$

1,414
1,732
2,449048

24,49048 /3 = 8,163...

8,16

(18)



$$y_5 = a - y_1$$
$$y_7 = a - y_1 - y_4$$
$$y_6 = a - y_1 - y_3 - y_7 = y_4 - y_3$$
$$y_2 = y_1 + y_3$$

x_i, y_i.

$$x_7 = x_4 + x_6 = x_2 + x_3 + x_4$$
$$x_6 = x_2 + x_3$$
$$x_5 = a - x_7 = a - x_2 - x_3 - x_4$$
$$x_2 = a - x_1$$

$$\begin{cases} x_2 = a - x_1 \\ x_5 = x_1 - x_3 - x_4 \\ x_6 = a - x_1 + x_3 \\ x_7 = a - x_1 + x_3 + x_4 \end{cases} \qquad \begin{cases} y_2 = y_1 + y_3 \\ y_5 = a - y_1 \\ y_6 = y_4 - y_3 \\ y_7 = a - y_1 - y_4 \end{cases}$$

$$7\, x_i\, y_i = a^2$$
$$x_i\, y_i = x_j\, y_j$$

$$S_2: \; a(y_1 + y_3) - \frac{a^2}{7} - t_{13} = \frac{a^2}{7}$$
$$S_5: \; a(x_1 - x_3 - x_4) - \frac{a^2}{7} + t_{31} + t_{41}$$
$$S_6: \; a(y_4 - y_3) - t_{14} + t_{13} + t_{34} - \frac{a^2}{7}$$
$$S_7: \; a^2 + a(-x_1 + x_3 + x_4 - y_1 - y_4) + t_{14} - t_{31} - t_{34} - t_{41}$$

$$y_1 = \left(\frac{2a}{7} + \frac{x_1 y_3}{a} \right) - y_3$$

$1 \times 7 \rightarrow 49$?