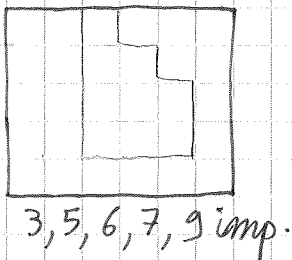
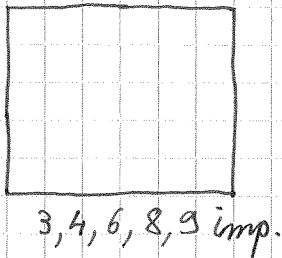
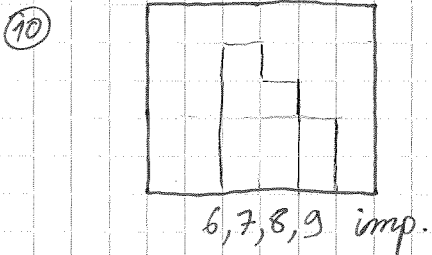


⑦ ~~20-7~~ ~~13~~ $21-7 = \boxed{14}$

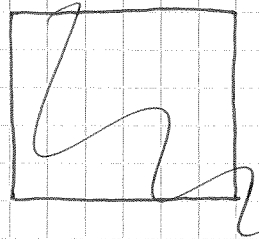
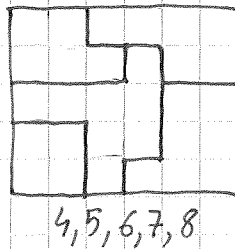
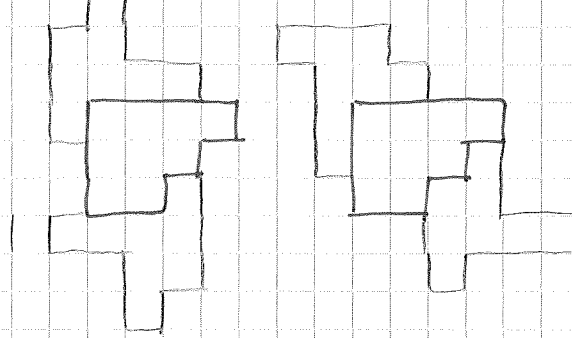
⑧ R
C+J $3 \times 4 = \boxed{12}$
C+P

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



~~3011~~ $3+4+\dots+9 = 42 \Rightarrow -12$

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



⑪ 3 art. : $T \times 0,7 = 168$
 $T = 240$

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

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

12

~~68~~
~~68~~

~~68~~
68
a b
16 x 17

$$68 = ab = 16 \times 17 \times x^2$$

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

13

$$LYJM + JM = JMLY$$

$$x = LYJM \quad y = JM$$

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

$$99x = 98y$$

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

$$49 + 49 = 98$$

$$4999 \times 2 = 9998$$

$$CIJM = \boxed{4999}$$

14

~~n = k^2~~

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

• Si $n \equiv 1 [2]$: n

$$n \equiv 1 [8] \rightarrow \text{imp.}$$

$$\rightarrow n \text{ pair.} \rightarrow n \equiv 0 [4].$$

$$20 \equiv 0 [4] \rightarrow n \equiv 4 \text{ ou } 8 [10].$$

$$k \equiv 2 \text{ ou } 8 [10].$$

3 sol^o

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

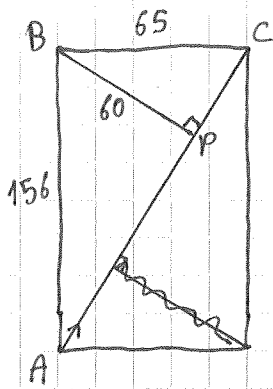
12	444
22	484
32	4024
42	4764
52	2704
62	3844
72	5184
82	6724
92	8464

18	
28	
38	1444
48	2304
58	3364
68	4624
78	6084
88	7744
98	9604

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

$$\begin{array}{r} 6084 \\ 1521 \\ \hline 169 \end{array}$$

15



Par 1/2 méthode

$$AB \perp AC$$

$$AB \perp AP$$

$$AP = 60$$

$$AB = 156 \quad BC = 65$$

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

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

$$\begin{array}{r}
 156 \\
 156 \\
 \hline
 24336 \\
 4225 \\
 \hline
 28561
 \end{array}$$

$$\begin{array}{r}
 65 \\
 65 \\
 \hline
 4225
 \end{array}$$

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

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

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

$$\begin{array}{r|l}
 28561 & 169 \\
 185 & \\
 -156 & 26 \\
 \hline
 2961 & 6 \\
 & 156 \\
 & \hline
 & 2961
 \end{array}$$

$$\begin{array}{r}
 24336 \\
 -3600 \\
 \hline
 20736
 \end{array}$$

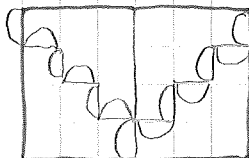
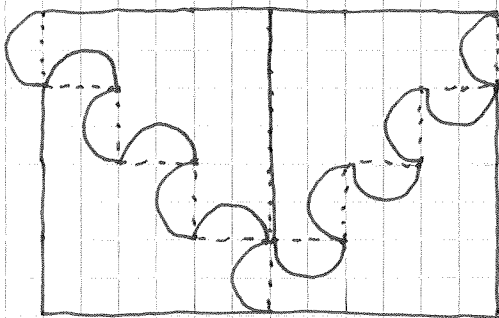
$$20736 / 144 = 144$$

Mathias: AP: 144 dm à 50 cm/s

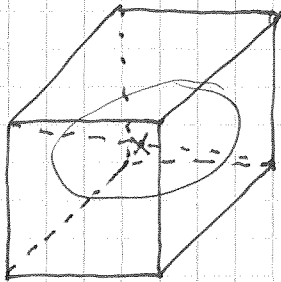
Mathilde: BP: 60 dm

$$50 \times \frac{60}{144} = \frac{25 \times 5}{6} = \frac{125}{6} \approx 20,8 \quad \frac{126}{6} = \boxed{21}$$

16



17



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

$$\begin{aligned} x &= y \\ \begin{cases} 2x^2 = R^2 \\ 2x + z = k \end{cases} & \quad k = 2 \frac{R}{\sqrt{2}} = R\sqrt{2} \end{aligned}$$

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

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

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

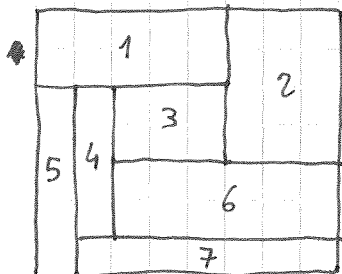
$$\text{dist: } 2 \sqrt{\frac{2}{3}} R = \frac{2}{3} \sqrt{6} R = \frac{10}{3} \sqrt{6}$$

$$\begin{array}{r} 1,414 \\ 1,732 \\ \hline 2,449048 \end{array}$$

$$24,49048 / 3 = 8,163\dots$$

8,16

18



x_i, y_i .

$$x_7 = x_4 + x_6 = x_2 + x_3 + x_4$$

$$x_6 = x_2 + x_3$$

$$x_5 = a - x_7 = a - x_2 - x_3 - x_4$$

$$x_2 = a - x_1$$

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

$$7 x_i y_i = a^2$$

$$x_i y_i = x_j y_j$$

$$S_2: a(y_1 + y_3) - \frac{a^2}{7} - t_{13} = \frac{a^2}{7}$$

$$S_5: a(x_1 - x_3 - x_4) - \frac{a^2}{7} + t_{31} + t_{41}$$

$$S_6: a(y_4 - y_3) - t_{14} + t_{13} + t_{34} - \frac{a^2}{7}$$

$$S_7: a^2 + a(-x_1 + x_3 + x_4 - y_1 - y_4) + t_{14} - t_{31} - t_{34} - t_{41}$$

$$y_1 = \frac{2a}{7} + \frac{x_1 y_3}{a} - y_3$$

$$1 \times 7 \rightarrow 49 ?$$

$$y_5 = a - y_1$$

$$y_7 = a - y_1 - y_4$$

$$y_6 = a - y_1 - y_3 - y_7 = y_4 - y_3$$

$$y_2 = y_1 + y_3$$