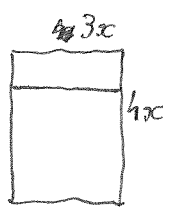


5



$P = 14x \rightarrow x = 8 \text{ cm}$

$24 \times 32 = 768$

6

ef, de, dh, di, fa, fb

7

$\overline{ab} = ab + 2a$ si $a > b$

$= ab + 2b$ si $b > a$

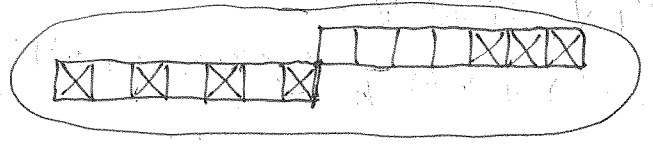
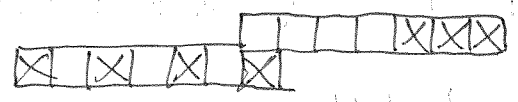
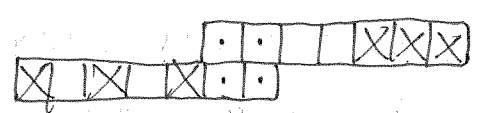
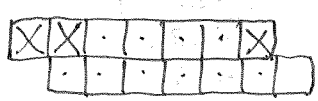
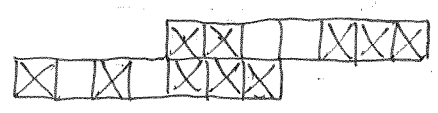
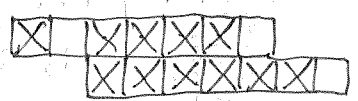
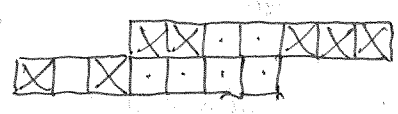
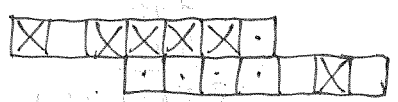
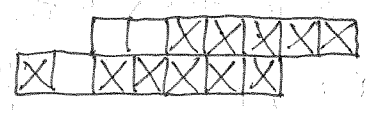
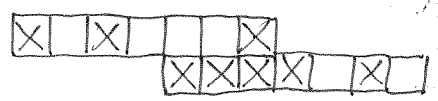
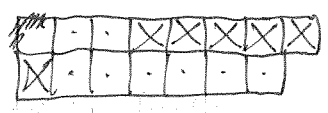
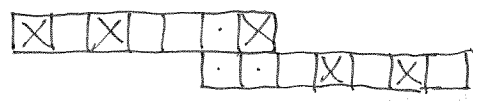
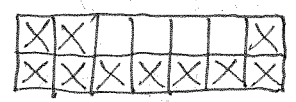
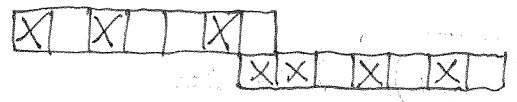
$10a + b = ab + 2a$ $8a + b = ab$

$b = \frac{8a}{a-1} \rightarrow$ ~~879, 100~~
~~879, 100~~
 $a = 9, b = 9$

$10a + b = ab + 2b$ $10a = ab + b$ $b = \frac{10a}{a+1} \rightarrow$ $a = 1, b = 5$ ($b > a$)
 $a = 4, b = 8$

15, 48, 99

8

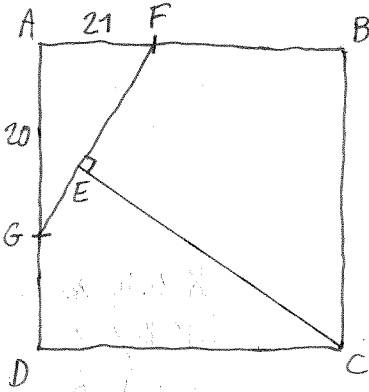


9

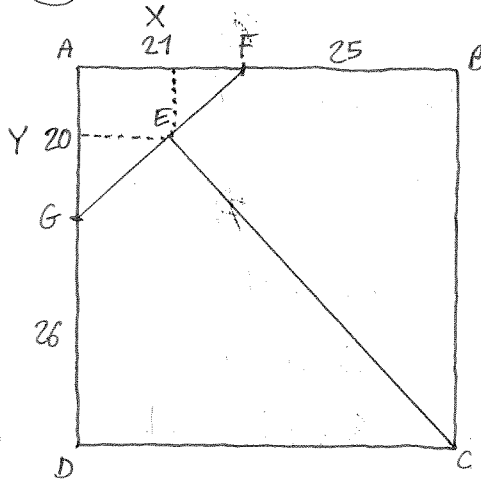
3 ne sert pas.

1, 3, 4, 6.

2116 = 46^2



10



2555,5	50,55
5550	
52500	
	1005
	x 3
	5025
	1010.

50,6

EF^2 + EG^2

~~E(tX, (1-t)Y)~~
C(1, 1)

X(1-tX) - Y(1-(1-t)Y) = 0

X - tX^2 - Y + Y^2 - tY^2 = 0

t = (X - Y + Y^2) / (X^2 + Y^2)

sqrt((1-tX)^2 + (1-(1-t)Y)^2) * 46

~~2(tX + (1-t)Y) + t^2X^2 + (1-t)^2Y^2~~

X = 21/46 Y = 20/46 t = (46 + 20^2) / (21^2 + 20^2) = 446/841

46(1-tX) = 46 - (21 * 446) / 841

	446
x	446
198316	841
1682	
3071	236,5
2523	
5486	
5046	
4400	
4205	
195	

2 - 2tX + t^2X^2 - 2Y + 2tY + Y^2 - 2tY^2 + t^2Y^2
(2 - 2Y + Y^2) + (-2X + 2Y - 2Y^2)t + (X^2 + Y^2)t^2

~~(2 + 2 - 3Y + 2Y^2)~~

[(2 - 2Y + Y^2) + (X - Y + Y^2)^2 / (X^2 + Y^2)] * 46^2

2 * 2116 - 2 * 46 * 20 + 20^2 - (446/841) * 446

4232 - 1840 + 400 -

2792 - 236,5 = 2555,5

(11)

$$F(n) = \frac{n(n-3)}{2}$$

3 4 5
0 2 5

~~or~~ $n(n-3) + p(p-3) + q(q-3) = 194$

- 3 0
- 4 2
- 5 5
- 6 9
- 7 14
- 8 20
- 9 27
- 10 35
- ~~11 44~~
- ~~12 54~~
- ~~13 65~~
- ~~14 77~~
- ~~15 90~~
- ~~16~~

$$37 = 2 + 5 + 90$$

$$\rightarrow 15 + 5 + 84 = 24$$

$$= 0 + 20 + 77$$

$$\rightarrow 14 + 8 + 3 = 25$$

$$= 5 + 27 + 65$$

$$\rightarrow 13 + 9 + 5 = 27$$

$$= 27 + 35 + 35$$

$$\rightarrow 10 + 10 + 9 = 29$$

24
25
27
29

(16)

Ages: X, Y, Z. B bêtes ~~X, Y, Z~~ $X, Y, Z \neq B > X, Y, Z$

$$BXYZ = B^2 + X^2 + Y^2 + Z^2$$

$$B = \frac{XYZ \sqrt{(XYZ)^2 - 4(X^2 + Y^2 + Z^2)}}{2}$$

$$abc - 4(a+b+c) = k^2 \quad a, b, c \in \{1, 4, 9, 16, \dots\}$$

$$a=1 \rightarrow bc - 4(1+b+c)$$

$$\left| \begin{array}{l} (2n)^2 - 45 \\ \dots \end{array} \right.$$

$$a=1, b=9 \rightarrow \begin{cases} 5c - 40 = k^2 \\ 5(c-8) = k^2 \end{cases} \quad c = 5c' + 8$$

$$x^2 y^2 z^2 - k^2 = 4(x^2 + y^2 + z^2)$$

$$12^2 - 4(144 - 5) \quad 576 - 5 \quad 23^2 \quad 47$$

- 1 2 6
- 1 3 4

$$24^2 - 4($$

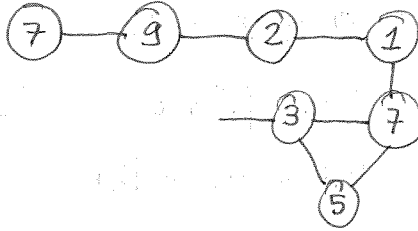
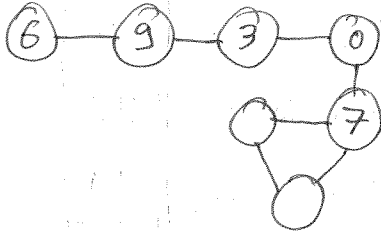
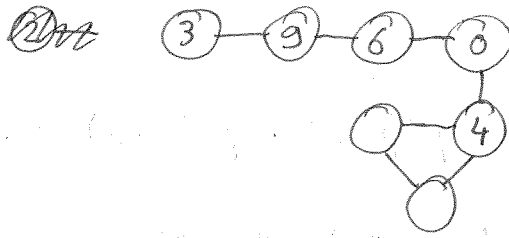
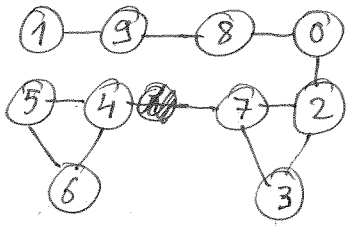
(48)

- 1 2 12
- 1 3 8
- 1 4 6
- 2 3 4

$$\begin{array}{l} 1 \ 2 \\ n^2 - 45 = (n-1)^2 \\ 2n - 1 - 45 = 0 \end{array}$$

$n = XYZ$

13



~~5-8~~



14

$$a = 3995, 3739, 3483, 3227, 2971$$

$$a - 5 = 3990, 3222$$

$$b = 3990, 3902, 3814, 3222, 3134, 3046$$

$$b + 3 = 3993, 3905, 3817, 3225$$

$$c = 3993 - 8n, 3905 - 8n, 3817 - 8n \quad (0 \leq n \leq 10)$$

$$y = \begin{matrix} 3997 - 8n \\ 3909 - 8n \\ 3821 - 8n \end{matrix}$$

$$[33 \text{ sol}^o : 3989, 3997]$$